88871

Access DB# _____

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: SHANON FOLEY Examiner #: 77851 Date: 3/11/13
Art Unit: 1648 Phone Number 308-3983 Serial Number: 09/451607
Mail Box and Bldg/Room Location: 8E12/8C09 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

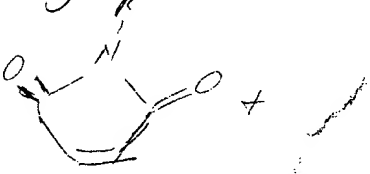
Title of Invention: Methods of inactivating compounds that inactivate HIV + other retroviruses

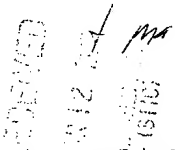
Inventors (please provide full names): Louis Henderson, Larry Arthur, William Rice

Earliest Priority Filing Date: 9/23/94

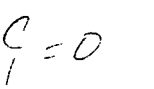
For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for a disulfide having the formula: R-S-S-R

+ maleimides having the formula  +



Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

 (Please see pictured in claim 24)

I have also provided the only chart of chemicals attached in the specification that may be useful. If you need anything else, please let me know, Jan - thank you so much for the notes you have provided in your searches before. You have been a great help in my chemical cases!!

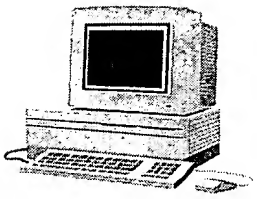
Please give to Jan Delaval.

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher:	NA Sequence (#)	STN ✓
Searcher Phone #: 4498	AA Sequence (#)	Dialog
Searcher Location:	Structure (#) ✓	Questel/Orbit
Date Searcher Picked Up: 3/15/13	Bibliographic	Dr.Link
Date Completed: 3/15/13	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical Prep Time: 30	Patent Family	WWW/Internet
Online Time: +90	Other	Other (specify)

PTO-1590 (8-01)

BioTech-Chem Library
Search Results
Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact ***the BioTech-Chem searcher*** who conducted the search ***or contact***:

Mary Hale, Supervisor, 308-4258
CM-1 Room 1E01

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* *(Example: 1610)*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms at the **Circulation Desk CM-1,** or send to Mary Hale, **CM1-1E01 or e-mail mary.hale@uspto.gov.**

```
=> d his

     (FILE 'HOME' ENTERED AT 13:39:53 ON 15 MAR 2003)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 13:40:25 ON 15 MAR 2003
               E HENDERSON L/AU
L1          45 S E3,E8
               E HENDERSON LOU/AU
L2         123 S E3,E4,E6,E7
               E ARTHUR L/AU
L3         115 S E3,E6,E9-E11
               E RICE W/AU
L4          18 S E3,E9
L5          61 S E45,E52,E53
               E REIN A/AU
L6         106 S E3,E6,E8
               E US600155/PN
               E US6001555/PN
L7           1 S E3
L8           1 S L1-L6 AND L7
               SEL RN

     FILE 'REGISTRY' ENTERED AT 13:57:16 ON 15 MAR 2003
L9          56 S E1-E56
               E IRON, ION/CN
L10          1 S E67
               E COPPER, ION/CN
L11          1 S E55
L12         16 S 10102-43-9 OR 541-59-3 OR 137-26-8 OR 97-77-8 OR 4136-91-8 OR
L13          2 S L9 AND ZN/ELS
L14          2 S 7440-50-8 OR 7439-89-6
L15         36 S L9 NOT L10-L14
L16         28 S L15 AND S>=2
L17         48 S L10,L11,L12,L14,L16
L18          8 S L9 NOT L13,L17
L19          1 S L18 AND NC4/ES
L20         49 S L17,L19
L21          7 S L18 NOT L20
L22          1 S 156730-41-5
L23         50 S L20,L22

     FILE 'HCAPLUS' ENTERED AT 14:25:59 ON 15 MAR 2003
L24     744102 S L23
               E DISULFIDE/CT
               E E7+ALL
L25       9262 S E3
               E E7+ALL
L26       2736 S E5
L27      32131 S E5+NT
               E HYDRAZIDE/CT
               E E10+ALL
L28       1940 S E3
L29      50477 S E3+NT
               E KETONE/CT
L30        613 S E111
L31       9512 S E141-E143,E154,E155
L32       5151 S KETONE#/CW (L) (HALID? OR HALO? OR CHLOR? OR FLUOR? OR IODO?
L33      46333 S E16
L34      49973 S KETONE#/CW
               E RETROVIR/CT
               E E6+ALL
L35       5912 S E4,E3
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Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

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L36       50318 S E3+NT
                E LENTIVIR/CT
                E E5+ALL
L37       39973 S E5,E4+NT
                E ONCOVIR/CT
L38          32 S VIRUS?/CW (L) (ONCO OR ONCOVIR?)
                E HIV/CT
                E E5+ALL
                E E2+ALL
L39       16946 S E7,E8,E6+NT
                E E5+ALL
L40       37204 S E6,E5+NT
L41         658 S L24-L34 AND L35-L40
L42          62 S L13 AND L41
L43          24 S (ZINC OR ZN)(L)FINGER AND L41
L44          75 S L42,L43
L45           3 S L41 AND CCHC
L46          24 S L41 AND NUCLEOCAPSID?
L47          85 S L41 AND (ZN OR ZINC)
L48          90 S L44-L47
L49          14 S L1-L6 AND L41

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L50           1 S 2127-03-9

     FILE 'HCAPLUS' ENTERED AT 14:39:09 ON 15 MAR 2003
L51         901 S L50
L52          38 S 2(A)ALDRITHIOL
L53           1 S NSC677438 OR NSC()(677438 OR 677 438)
L54          49 S BIS 2 PYRID? DISULFIDE
L55         239 S 2 PYRIDYL DISULFIDE
L56          63 S 2 2 DITHIOBIS PYRIDINE
L57         358 S 2 2 DIPYRID? DISULFIDE
L58         196 S 2 2 DITHIODIPYRIDINE
L59          68 S DI 2 PYRID? DISULFIDE
L60          49 S BIS 2 PYRID? DISULFIDE
L61          29 S L51-L60 AND L35-L40
L62          10 S L61 AND (L13 OR ZINC OR ZN OR FINGER OR NUCLEOCAPSID? OR CCHC
L63         110 S L48,L49,L8,L61,L62
L64          42 S L63 AND (PY<=1995 OR PRY<=1995 OR AY<=1995)
L65          40 S L63 AND (PD<=19950127 OR PRD<=19950127 OR AD<=19950127)
L66          38 S L63 AND (PD<=19940923 OR PRD<=19940923 OR AD<=19940923)
L67          38 S L66 AND L1-L8,L24-L49,L51-L66
                E ANTIVIRAL/CT
                E E5+ALL
L68          19 S L67 AND E10,E11,E9+NT
L69           8 S L67 AND INACTIV?
L70          23 S L68,L69
L71          15 S L67 NOT L70
                SEL DN AN L71 3 9
L72           2 S E1-E6 AND L71
L73          25 S L70,L72
L74          24 S L73 AND (HIV? OR HUMAN(L)IMMUNODEFICIEN?(L)(VIRUS OR SYNDROM?
L75           1 S L73 NOT L74
L76           8 S L61,L62 AND (PY<=1995 OR PRY<=1995 OR AY<=1995)
L77           2 S L76 NOT L74
L78          24 S L74 AND L1-L8,L24-L49,L51-L77
                SEL HIT RN

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L79          51 S E7-E57
L80          49 S L79 NOT ZN/ELS
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USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   13 MAR 2003  HIGHEST RN 499099-49-9
DICTIONARY FILE UPDATES:  13 MAR 2003  HIGHEST RN 499099-49-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d ide can tot l80

L80  ANSWER 1 OF 49  REGISTRY  COPYRIGHT 2003 ACS
RN   178487-70-2  REGISTRY
CN   Disulfide, bis(2,3-dimethoxyphenyl) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   NSC 677472
FS   3D CONCORD
MF   C16 H18 O4 S2
SR   CA
LC   STN Files:   CA, CAPLUS, CHEMCATS, USPATFULL
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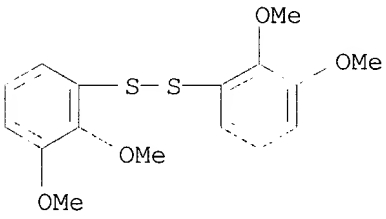


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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

               4 REFERENCES IN FILE CA (1962 TO DATE)
               4 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE   1:  137:73255

REFERENCE   2:  132:30812

REFERENCE   3:  125:184901

REFERENCE   4:  125:76341

L80  ANSWER 2 OF 49  REGISTRY  COPYRIGHT 2003 ACS
RN   156730-41-5  REGISTRY
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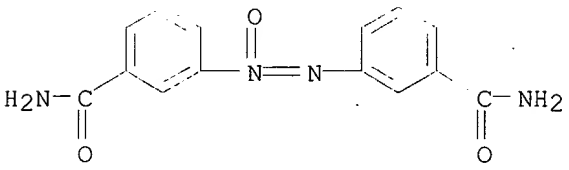
CN Benzamide, 3,3'-azoxybis- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 3,3'-Azoxybenzamide
FS 3D CONCORD
MF C14 H12 N4 O3
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



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5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:30812

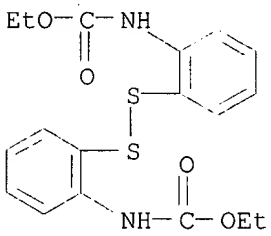
REFERENCE 2: 125:86322

REFERENCE 3: 124:260865

REFERENCE 4: 124:202044

REFERENCE 5: 121:99775

L80 ANSWER 3 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **72687-29-7** REGISTRY
CN Carbamic acid, (dithiodi-2,1-phenylene)bis-, diethyl ester (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C18 H20 N2 O4 S2
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:73255

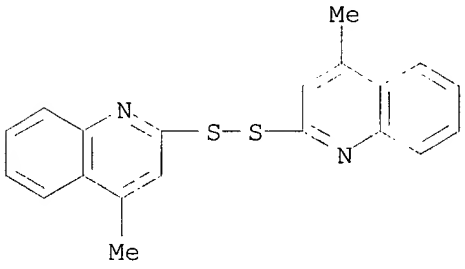
REFERENCE 2: 132:30812

REFERENCE 3: 125:76341

REFERENCE 4: 107:134255

REFERENCE 5: 92:76429

L80 ANSWER 4 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **66546-28-9** REGISTRY
CN Quinoline, 2,2'-dithiobis[4-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Lepidine, 2,2'-dithiodi- (6CI)
FS 3D CONCORD
MF C20 H16 N2 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6 REFERENCES IN FILE CA (1962 TO DATE)
6 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 134:209141

REFERENCE 2: 134:110110

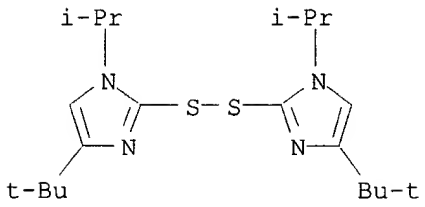
REFERENCE 3: 132:30812

REFERENCE 4: 125:76341

REFERENCE 5: 88:190565

REFERENCE 6: 55:2680

L80 ANSWER 5 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **61747-35-1** REGISTRY
CN 1H-Imidazole, 2,2'-dithiobis[4-(1,1-dimethylethyl)-1-(1-methylethyl)-
(9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,2'-Dithiobis(4-tert-butyl-1-isopropylimidazole)
FS 3D CONCORD
MF C20 H34 N4 S2
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX,
CHEMLIST, MSDS-OHS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



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15 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 135:372678

REFERENCE 2: 135:46638

REFERENCE 3: 134:110110

REFERENCE 4: 133:90223

REFERENCE 5: 132:30812

REFERENCE 6: 129:12327

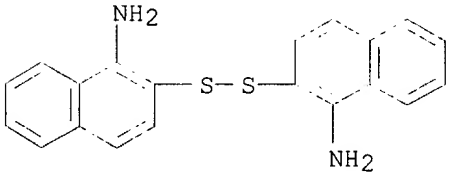
REFERENCE 7: 125:76341

REFERENCE 8: 116:230222

REFERENCE 9: 116:55101

REFERENCE 10: 114:237652

L80 ANSWER 6 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **38262-57-6** REGISTRY
CN 1-Naphthalenamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,2'-Dithiobis(1-aminonaphthalene)
FS 3D CONCORD
MF C20 H16 N2 S2
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CHEMCATS, CSCHEM, MSDS-OHS, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
14 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 135:314860

REFERENCE 2: 132:30812

REFERENCE 3: 132:18252

REFERENCE 4: 125:76341

REFERENCE 5: 102:132013

REFERENCE 6: 101:125477

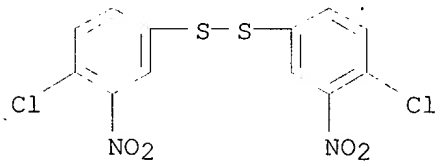
REFERENCE 7: 95:56899

REFERENCE 8: 93:90750

REFERENCE 9: 92:214435

REFERENCE 10: 92:190816

L80 ANSWER 7 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **35964-48-8** REGISTRY
CN Disulfide, bis(4-chloro-3-nitrophenyl) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN NSC 677442
FS 3D CONCORD
MF C12 H6 Cl2 N2 O4 S2
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMCATS, CHEMLIST, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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6 REFERENCES IN FILE CAPLUS (1962 TO DATE)

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REFERENCE 2: 126:225244

REFERENCE 3: 125:184901

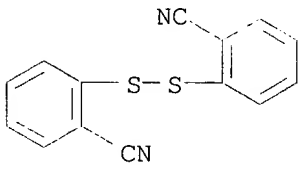
REFERENCE 4: 125:76341

REFERENCE 5: 78:111007

REFERENCE 6: 76:112309

L80 ANSWER 8 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **33174-74-2** REGISTRY
CN Benzonitrile, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzonitrile, 2,2'-dithiodi- (8CI)

OTHER NAMES:
CN 2,2'-Dicyanodiphenyl disulfide
CN Bis(2-cyanophenyl) disulfide
CN NSC 677458
FS 3D CONCORD
MF C14 H8 N2 S2
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, SYNTHLINE, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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27 REFERENCES IN FILE CAPLUS (1962 TO DATE)

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REFERENCE 2: 132:293417

REFERENCE 3: 132:30812

REFERENCE 4: 131:144613

REFERENCE 5: 130:311765

REFERENCE 6: 129:41107

REFERENCE 7: 128:127653

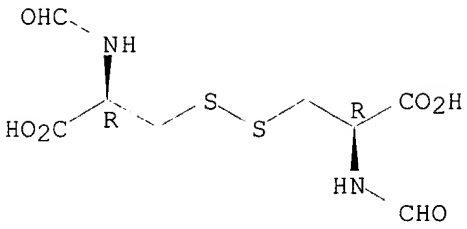
REFERENCE 8: 127:332692

REFERENCE 9: 127:293160

REFERENCE 10: 127:248126

L80 ANSWER 9 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **29581-98-4** REGISTRY
CN L-Cystine, N,N'-diformyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Cystine, N,N'-diformyl- (6CI)
CN Cystine, N,N'-diformyl-, L- (8CI)
OTHER NAMES:
CN N,N'-Diformyl-L-cystine
FS STEREOSEARCH
DR 816-91-1
MF C8 H12 N2 O6 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, NIOSHTIC, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

15 REFERENCES IN FILE CA (1962 TO DATE)
15 REFERENCES IN FILE CAPLUS (1962 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 132:30812

REFERENCE 2: 125:76341

REFERENCE 3: 118:120258

REFERENCE 4: 116:174712

REFERENCE 5: 109:149866

REFERENCE 6: 78:58

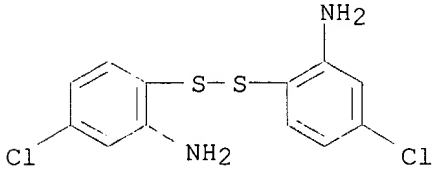
REFERENCE 7: 77:114857

REFERENCE 8: 73:54325

REFERENCE 9: 62:60733

REFERENCE 10: 61:92659

L80 ANSWER 10 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **29124-55-8** REGISTRY
CN Benzenamine, 2,2'-dithiobis[5-chloro- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Aniline, 2,2'-dithiobis[5-chloro- (7CI, 8CI)
OTHER NAMES:
CN 2,2'-Diamino-4,4'-dichlorodiphenyl disulfide
CN NSC 677447
FS 3D CONCORD
MF C12 H10 Cl2 N2 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

23 REFERENCES IN FILE CA (1962 TO DATE)
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REFERENCE 1: 137:73255

REFERENCE 2: 135:314860

REFERENCE 3: 135:298211

REFERENCE 4: 132:30812

REFERENCE 5: 125:184901

REFERENCE 6: 125:76341

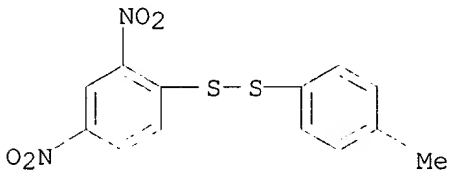
REFERENCE 7: 101:55079

REFERENCE 8: 99:87826

REFERENCE 9: 92:128024

REFERENCE 10: 92:6226

L80 ANSWER 11 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **24696-61-5** REGISTRY
CN Disulfide, 2,4-dinitrophenyl 4-methylphenyl (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, 2,4-dinitrophenyl p-tolyl (6CI, 7CI, 8CI)
OTHER NAMES:
CN 2,4-Dinitro-4'-methyldiphenyl disulfide
CN 2,4-Dinitrophenyl p-tolyl disulfide
FS 3D CONCORD
MF C13 H10 N2 O4 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

13 REFERENCES IN FILE CA (1962 TO DATE)
13 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 134:11677

REFERENCE 2: 132:30812

REFERENCE 3: 131:184867

REFERENCE 4: 125:76341

REFERENCE 5: 105:60256

REFERENCE 6: 100:173968

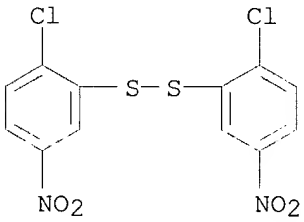
REFERENCE 7: 97:162494

REFERENCE 8: 87:22643

REFERENCE 9: 80:59114

REFERENCE 10: 79:115715

L80 ANSWER 12 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **20201-05-2** REGISTRY
CN Disulfide, bis(2-chloro-5-nitrophenyl) (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Bis(2-chloro-5-nitrophenyl) disulfide
FS 3D CONCORD
MF C12 H6 Cl2 N2 O4 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CHEMCATS, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9 REFERENCES IN FILE CA (1962 TO DATE)
9 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:355021

REFERENCE 2: 132:30812

REFERENCE 3: 132:3248

REFERENCE 4: 125:76341

REFERENCE 5: 100:174748

REFERENCE 6: 76:112309

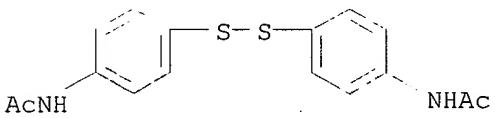
REFERENCE 7: 68:104454

REFERENCE 8: 52:15653

REFERENCE 9: 52:15652

L80 ANSWER 13 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **16766-09-9** REGISTRY
CN Acetamide, N,N'-(dithiodi-4,1-phenylene)bis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:

CN Acetanilide, 4',4'''-dithiobis- (8CI)
OTHER NAMES:
CN Bis(4-acetamidophenyl) disulfide
CN Bis(4-acetylaminophenyl) disulfide
FS 3D CONCORD
MF C16 H16 N2 O2 S2
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, IFICDB, IFIPAT, IFIUDB, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

49 REFERENCES IN FILE CA (1962 TO DATE)
49 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:170116

REFERENCE 2: 137:208256

REFERENCE 3: 135:222516

REFERENCE 4: 134:35008

REFERENCE 5: 132:87659

REFERENCE 6: 132:30812

REFERENCE 7: 131:191285

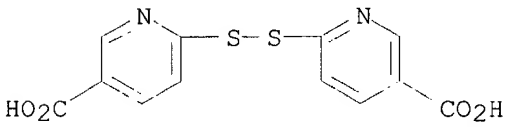
REFERENCE 8: 130:189205

REFERENCE 9: 130:59012

REFERENCE 10: 128:294743

L80 ANSWER 14 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **15658-35-2** REGISTRY
CN 3-Pyridinecarboxylic acid, 6,6'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Nicotinic acid, 6,6'-dithiodi- (8CI)
OTHER NAMES:
CN 6,6'-Dithiodinicotinic acid
CN 6,6'-Dithionicotinic acid
CN Carboxypyridine disulfide
CN CPDS
FS 3D CONCORD
MF C12 H8 N2 O4 S2
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, PHAR, RTECS*, SYNTHLINE, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

132 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
133 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:224054

REFERENCE 2: 137:103886

REFERENCE 3: 137:73255

REFERENCE 4: 136:264577

REFERENCE 5: 136:235631

REFERENCE 6: 136:61567

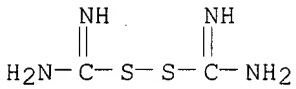
REFERENCE 7: 135:372678

REFERENCE 8: 134:245193

REFERENCE 9: 134:110110

REFERENCE 10: 134:39177

L80 ANSWER 15 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **14807-75-1** REGISTRY
CN Thioperoxydicarbonimidic diamide ([(H2N)C(NH)]2S2), dihydrochloride (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Formamidine, 1,1'-dithiodi-, dihydrochloride (7CI, 8CI)
OTHER NAMES:
CN .alpha.,.alpha.'-Dithiobisformamidinium dichloride
CN 1,1'-Dithiodiformamidine hydrochloride
CN C,C'-Dithiodiformamidinium dichloride
CN Diformamidine disulfide dihydrochloride
CN Dithiobis[diaminomethylcarbonium chloride]
CN Dithioformamidine dihydrochloride
CN Formamidine disulfide dihydrochloride
DR 35468-36-1
MF C2 H6 N4 S2 . 2 Cl H
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, GMELIN*, RTECS*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (3256-06-2)



● 2 HCl

41 REFERENCES IN FILE CA (1962 TO DATE)
41 REFERENCES IN FILE CAPLUS (1962 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:69532

REFERENCE 2: 135:129593

REFERENCE 3: 135:76571

REFERENCE 4: 132:30812

REFERENCE 5: 132:27713

REFERENCE 6: 125:76341

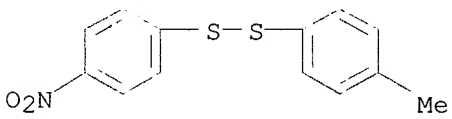
REFERENCE 7: 124:307619

REFERENCE 8: 124:260207

REFERENCE 9: 110:94495

REFERENCE 10: 109:92107

L80 ANSWER 16 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **14756-51-5** REGISTRY
CN Disulfide, 4-methylphenyl 4-nitrophenyl (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, p-nitrophenyl p-tolyl (7CI, 8CI)
OTHER NAMES:
CN p-Nitrophenyl p-tolyl disulfide
FS 3D CONCORD
MF C13 H11 N O2 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

15 REFERENCES IN FILE CA (1962 TO DATE)
15 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:128478

REFERENCE 2: 135:298211

REFERENCE 3: 132:30812

REFERENCE 4: 130:273973

REFERENCE 5: 125:57694

REFERENCE 6: 123:338868

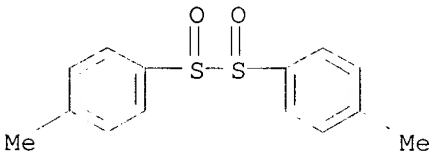
REFERENCE 7: 109:109942

REFERENCE 8: 106:17996

REFERENCE 9: 101:130324

REFERENCE 10: 88:49876

L80 ANSWER 17 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **14370-67-3** REGISTRY
CN Disulfoxide, bis(4-methylphenyl) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN p-Tolyl disulfoxide (6CI, 7CI, 8CI)
OTHER NAMES:
CN NSC 677464
FS 3D CONCORD
MF C14 H14 O2 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CHEMCATS, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

9 REFERENCES IN FILE CA (1962 TO DATE)
9 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 132:347661

REFERENCE 2: 132:30812

REFERENCE 3: 130:52010

REFERENCE 4: 125:247552

REFERENCE 5: 125:184901

REFERENCE 6: 125:76341

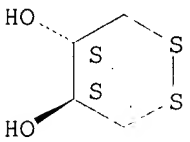
REFERENCE 7: 81:25294

REFERENCE 8: 66:75789

REFERENCE 9: 61:69386

L80 ANSWER 18 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **14193-38-5** REGISTRY
CN 1,2-Dithiane-4,5-diol, (4R,5R)-rel- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1,2-Dithiane-4,5-diol, trans-
CN o-Dithiane-4,5-diol, trans- (7CI, 8CI)
OTHER NAMES:
CN (.+-.)-trans-1,2-Dithiane-4,5-diol
CN NSC 663605
CN trans-1,2-Dithiane-4,5-diol
CN trans-4,5-Dihydroxy-1,2-dithiane
CN trans-4,5-Dihydroxy-o-dithiane
FS STEREOSEARCH
DR 24891-61-0, 17307-14-1, 86023-22-5
MF C4 H8 O2 S2
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Relative stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

86 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
86 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:132120

REFERENCE 2: 138:72813

REFERENCE 3: 138:29520

REFERENCE 4: 137:337841

REFERENCE 5: 137:334003

REFERENCE 6: 137:210070

REFERENCE 7: 137:73255

REFERENCE 8: 137:57578

REFERENCE 9: 137:32952

REFERENCE 10: 136:239522

L80 ANSWER 19 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **10102-43-9** REGISTRY
CN Nitrogen oxide (NO) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:

CN Amidogen, oxo-
CN INOmax
CN Nitric oxide
CN Nitric oxide (NO)
CN Nitric oxide trimer
CN Nitrogen monooxide
CN Nitrogen monoxide
CN Nitrogen oxide (N4O4)
CN Nitrogen(II) oxide
CN Nitrosyl radical
CN OHM 11771
DR 53851-19-7, 51005-20-0, 51005-21-1, 90452-29-2
MF N O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, DRUGUPDATES, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

N═O

70401 REFERENCES IN FILE CA (1962 TO DATE)
429 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
70470 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:179861

REFERENCE 2: 138:179286

REFERENCE 3: 138:179274

REFERENCE 4: 138:179265

REFERENCE 5: 138:178660

REFERENCE 6: 138:177956

REFERENCE 7: 138:177802

REFERENCE 8: 138:177689

REFERENCE 9: 138:177481

REFERENCE 10: 138:177429

L80 ANSWER 20 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **7440-50-8** REGISTRY
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 100RXH
CN 1100T
CN 115A
CN 1721 Gold
CN 200RL
CN 22BB400

CN 2L3GT
CN 3EC
CN 3EC-HTE
CN 3EC-III
CN 3EC-VLP
CN 3EC3
CN 3L Fire
CN Allbri Natural Copper
CN Arwood copper
CN BHN
CN BHN 02T
CN BHY 02B-T
CN BHY 13HT
CN BHY 13T
CN BHY 22B-T
CN BPF 18
CN BSH
CN BSH (metal)
CN C 100
CN C 100 (metal)
CN C.I. 77400
CN C.I. Pigment Metal 2
CN CCL-HL 830
CN CDX
CN CDX (metal)
CN CE 1100
CN CE 1110
CN CE 115
CN CE 15
CN CE 25
CN CE 7
CN CE 7 (metal)
CN CE 8A
CN CF 78
CN CF-T 8
CN Copper element
CN Copper Powder
CN CS-F 150E
CN CT 315E
CN CU 112
CN Cu-At-W 250
CN CU-FN 10
CN Cu-HWQ
CN CuEP
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 133353-46-5, 133353-47-6, 65555-90-0, 72514-83-1, 195161-80-9
MF Cu
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

404097 REFERENCES IN FILE CA (1962 TO DATE)
21001 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
404235 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:179883

REFERENCE 2: 138:179880

REFERENCE 3: 138:179879

REFERENCE 4: 138:179845

REFERENCE 5: 138:179816

REFERENCE 6: 138:179814

REFERENCE 7: 138:179780

REFERENCE 8: 138:179771

REFERENCE 9: 138:179717

REFERENCE 10: 138:179714

L80 ANSWER 21 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **7439-89-6** REGISTRY
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 300A
CN 3ZhP
CN A 227
CN Ancor B
CN Ancor EN 80/150
CN AQ 80
CN Armco iron
CN Armco-80
CN Atomel 300M200
CN Atomel 500M
CN Atomet 28
CN Atomet 95
CN Atomet 95G
CN Atomiron 44MR
CN Atomiron 5M
CN Atomiron AFP 25
CN Atomiron AFP 5
CN ATW 230
CN ATW 432
CN BASF-EW
CN Carbon 0.17, iron 99.83 (atomic)
CN Carbonyl iron
CN Copy Powder CS 105-175
CN DH
CN Diseases (animal), iron overload
CN Diseases, iron overload
CN DSP 1000
CN DSP 128B
CN DSP 135
CN DSP 135C
CN DSP 138
CN EF 1000
CN EF 250

CN EFV
CN EFV 200/300
CN EFV 250
CN EFV 250/400
CN EO 5A
CN F 60
CN F 60 (metal)
CN Ferrovac E
CN FT 3
CN FT 3 (element)
CN GS 6
CN HF 2
CN HF 2 (element)
CN HL (iron)
CN Hoeganaes ATW 230
CN Hoeganaes EH
CN HQ
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 8011-79-8, 8053-60-9, 129048-51-7, 73135-38-3, 70884-35-4, 39344-71-3, 190454-13-8, 195161-83-2, 199281-22-6, 443783-52-6
MF Fe
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Fe

330754 REFERENCES IN FILE CA (1962 TO DATE)
17983 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
330866 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:179880

REFERENCE 2: 138:179879

REFERENCE 3: 138:179862

REFERENCE 4: 138:179853

REFERENCE 5: 138:179848

REFERENCE 6: 138:179845

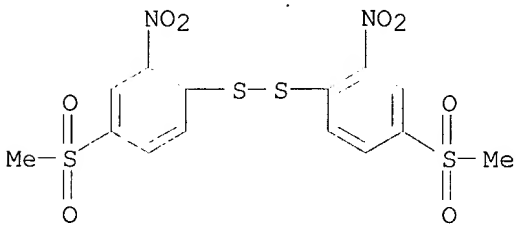
REFERENCE 7: 138:179818

REFERENCE 8: 138:179781

REFERENCE 9: 138:179771

REFERENCE 10: 138:179738

L80 ANSWER 22 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **7038-49-5** REGISTRY
CN Disulfide, bis[4-(methylsulfonyl)-2-nitrophenyl] (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN NSC 677463
FS 3D CONCORD
MF C14 H12 N2 O8 S4
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6 REFERENCES IN FILE CA (1962 TO DATE)
6 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 132:30812

REFERENCE 2: 125:184901

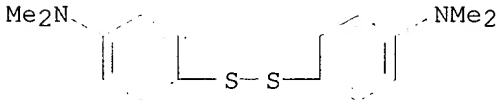
REFERENCE 3: 76:99646

REFERENCE 4: 71:49957

REFERENCE 5: 65:82328

REFERENCE 6: 65:47747

L80 ANSWER 23 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **5397-29-5** REGISTRY
CN Benzenamine, 4,4'-dithiobis[N,N-dimethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Aniline, 4,4'-dithiobis[N,N-dimethyl- (6CI, 7CI, 8CI)
OTHER NAMES:
CN Bis[4-(dimethylamino)phenyl] disulfide
CN Bis[p-(dimethylamino)phenyl] disulfide
CN Di-p-dimethylaminophenyl disulfide
FS 3D CONCORD
MF C16 H20 N2 S2
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, IFICDB, IFIPAT, IFIUDB, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

44 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
44 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:128478

REFERENCE 2: 137:73255

REFERENCE 3: 135:254112

REFERENCE 4: 134:280435

REFERENCE 5: 133:50111

REFERENCE 6: 132:30812

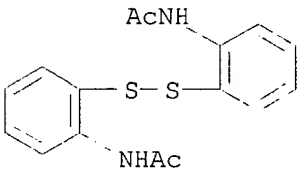
REFERENCE 7: 130:239851

REFERENCE 8: 125:76341

REFERENCE 9: 125:58018

REFERENCE 10: 124:55068

L80 ANSWER 24 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **4490-97-5** REGISTRY
CN Acetamide, N,N'-(dithiodi-2,1-phenylene)bis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acetanilide, 2',2'''-dithiobis- (7CI, 8CI)
OTHER NAMES:
CN Bis(2-acetamidophenyl) disulfide
CN Bis(2-acetylaminophenyl) disulfide
FS 3D CONCORD
MF C16 H16 N2 O2 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

29 REFERENCES IN FILE CA (1962 TO DATE)
29 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:263582

REFERENCE 2: 136:5804

REFERENCE 3: 133:321682

REFERENCE 4: 133:232370

REFERENCE 5: 132:30812

REFERENCE 6: 129:175448

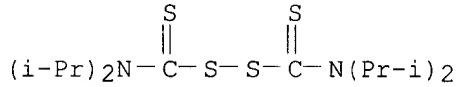
REFERENCE 7: 128:69934

REFERENCE 8: 127:154564

REFERENCE 9: 126:205418

REFERENCE 10: 125:315100

L80 ANSWER 25 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **4136-91-8** REGISTRY
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetrakis(1-methylethyl)-(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(diisopropylthiocarbamoyl) (6CI, 7CI, 8CI)
OTHER NAMES:
CN N,N,N',N'-Tetraisopropylthiuram disulfide
CN Tetraisopropylthiuram disulfide
FS 3D CONCORD
MF C14 H28 N2 S4
LC STN Files: AQUIRE, BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM, GMELIN*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

64 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
64 REFERENCES IN FILE CAPLUS (1962 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:370178

REFERENCE 2: 134:222836

REFERENCE 3: 134:24820

REFERENCE 4: 132:302454

REFERENCE 5: 132:166336

REFERENCE 6: 132:30812

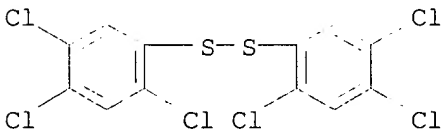
REFERENCE 7: 131:234746

REFERENCE 8: 129:12327

REFERENCE 9: 127:81733

REFERENCE 10: 126:206782

L80 ANSWER 26 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **3808-87-5** REGISTRY
CN Disulfide, bis(2,4,5-trichlorophenyl) (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Bis(2,4,5-trichlorophenyl) disulfide
CN NSC 238936
FS 3D CONCORD
MF C12 H4 Cl6 S2
LC STN Files: AQUIRE, BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, HODOC*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

43 REFERENCES IN FILE CA (1962 TO DATE)
43 REFERENCES IN FILE CAPLUS (1962 TO DATE)
9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:4518

REFERENCE 2: 134:237657

REFERENCE 3: 134:17469

REFERENCE 4: 132:293840

REFERENCE 5: 132:30812

REFERENCE 6: 131:310538

REFERENCE 7: 131:195525

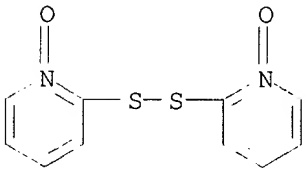
REFERENCE 8: 131:6450

REFERENCE 9: 127:289795

REFERENCE 10: 126:174104

L80 ANSWER 27 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **3696-28-4** REGISTRY
CN Pyridine, 2,2'-dithiobis-, 1,1'-dioxide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Pyridine, 2,2'-dithiodi-, 1,1'-dioxide (6CI, 7CI, 8CI)
OTHER NAMES:
CN (1-Oxo-2-pyridyl) disulfide
CN 2,2'-Dipyridyl disulfide bis-N-oxide
CN 2,2'-Dipyridyl disulfide N,N'-bisoxide
CN 2,2'-Dithiobis(pyridine 1-oxide)
CN 2,2'-Dithiobis(pyridine N-oxide)

CN 2,2'-Dithiobispyridine 1,1'-dioxide
CN 2,2'-Dithiodipyridine 1,1'-dioxide
CN Bis(2-pyridine-N-oxide)disulfide
CN Bis(2-pyridyl 1-oxide) disulfide
CN Bis(2-pyridyl) disulfide di-N-oxide
CN Bis(2-pyridyl-N-oxide) disulfide
CN Bis(N-oxido-2-pyridyl) disulfide
CN Di-2-pyridyl disulfide N,N'-dioxide
CN Dipyrithione
CN NSC 677437
CN Omadine disulfide
CN Omadine DS
CN OMDS
CN OSY 20
FS 3D CONCORD
DR 90829-79-1
MF C10 H8 N2 O2 S2
CI COM
LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DDFU, DRUGU, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

266 REFERENCES IN FILE CA (1962 TO DATE)
17 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
268 REFERENCES IN FILE CAPLUS (1962 TO DATE)
24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:111679

REFERENCE 2: 137:224054

REFERENCE 3: 137:149237

REFERENCE 4: 137:147714

REFERENCE 5: 137:141786

REFERENCE 6: 137:129323

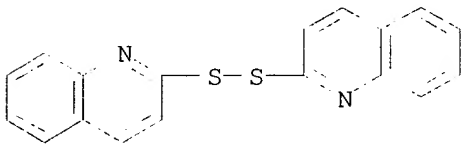
REFERENCE 7: 137:101464

REFERENCE 8: 137:5853

REFERENCE 9: 136:393181

REFERENCE 10: 136:365282

L80 ANSWER 28 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **2889-13-6** REGISTRY
CN Quinoline, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Quinoline, 2,2'-dithiodi- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 2,2'-Dithiodiquinoline
CN NSC 677473
FS 3D CONCORD
DR 137376-18-2
MF C18 H12 N2 S2
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMINFORMRX, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

23 REFERENCES IN FILE CA (1962 TO DATE)
23 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 132:30812

REFERENCE 2: 127:359105

REFERENCE 3: 127:50552

REFERENCE 4: 126:171184

REFERENCE 5: 126:8006

REFERENCE 6: 125:266044

REFERENCE 7: 125:221031

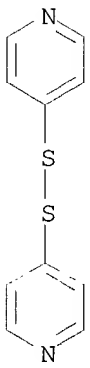
REFERENCE 8: 125:184901

REFERENCE 9: 125:76341

REFERENCE 10: 119:197869

L80 ANSWER 29 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **2645-22-9** REGISTRY
CN Pyridine, 4,4'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Pyridine, 4,4'-dithiodi- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 4,4'-Bipyridyl disulfide
CN 4,4'-Dipyridine disulfide
CN 4,4'-Dipyridyl disulfide
CN 4,4'-Dithiobispyridine
CN 4,4'-Dithiodipyridine
CN 4,4'-Dithiopyridine
CN 4-Pyridyl disulfide

CN Aldrithiol 4
CN Bis(4-pyridinyl) disulfide
CN Bis(4-pyridyl) disulfide
CN Di(4-Pyridyl) disulfide
FS 3D CONCORD
MF C10 H8 N2 S2
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, MEDLINE, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

293 REFERENCES IN FILE CA (1962 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
293 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:142431

REFERENCE 2: 137:347517

REFERENCE 3: 137:259575

REFERENCE 4: 137:152038

REFERENCE 5: 137:100411

REFERENCE 6: 137:73255

REFERENCE 7: 137:63334

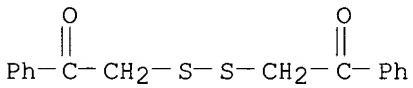
REFERENCE 8: 137:29574

REFERENCE 9: 137:15417

REFERENCE 10: 137:5854

L80 ANSWER 30 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **2461-75-8** REGISTRY

CN Ethanone, 2,2'-dithiobis[1-phenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acetophenone, 2,2''-dithiodi- (6CI, 7CI, 8CI)
OTHER NAMES:
CN Diphenacyl disulfide
CN NSC 677471
CN Phenacyl disulfide
FS 3D CONCORD
MF C16 H14 O2 S2
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

24 REFERENCES IN FILE CA (1962 TO DATE)
24 REFERENCES IN FILE CAPLUS (1962 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:73255

REFERENCE 2: 135:210832

REFERENCE 3: 132:30812

REFERENCE 4: 129:289733

REFERENCE 5: 125:184901

REFERENCE 6: 125:76341

REFERENCE 7: 124:145533

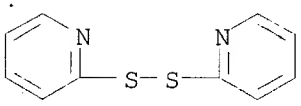
REFERENCE 8: 122:160173

REFERENCE 9: 110:173952

REFERENCE 10: 106:210170

L80 ANSWER 31 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN 2127-03-9 REGISTRY
CN Pyridine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Pyridine, 2,2'-dithiodi- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 2,2'-Dipyridinyl disulfide
CN 2,2'-Dipyridyl disulfide
CN 2,2'-Dithiobis(pyridine) → 2,2'-dipyridyl disulfide
CN 2,2'-Dithiodipyridine
CN 2-Aldrithiol
CN 2-Pyridyl disulfide
CN Aldrithiol 2
CN Bis(2-pyridinyl) disulfide
CN Bis(2-pyridyl) disulfide
CN Di-2-pyridyl disulfide
CN NSC 677438

FS 3D CONCORD
DR 219143-69-8
MF C10 H8 N2 S2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NIOSHTIC, PROMT, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

895 REFERENCES IN FILE CA (1962 TO DATE)
21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
899 REFERENCES IN FILE CAPLUS (1962 TO DATE)
8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:170116

REFERENCE 2: 138:162574

REFERENCE 3: 138:149584

REFERENCE 4: 138:83329

REFERENCE 5: 138:72958

REFERENCE 6: 138:72813

REFERENCE 7: 138:17675

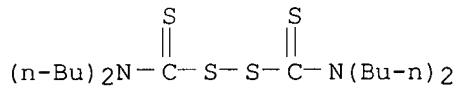
REFERENCE 8: 138:14152

REFERENCE 9: 138:4809

REFERENCE 10: 137:384772

L80 ANSWER 32 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **1634-02-2** REGISTRY
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), ,tetrabutyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(dibutylthiocarbamoyl) (6CI, 7CI, 8CI)
OTHER NAMES:
CN Bis(dibutylthiocarbamoyl) disulfide
CN Butyl Tuads
CN E-BT 55
CN Methanethioamide, 1,1'-dithiobis[N,N-dibutyl-
CN N,N,N',N'-Tetrabutylthiuram disulfide
CN Nocceler TBT

CN Nocceler TBT-N
CN NSC 677476
CN Robac TBUT
CN Tetrabutylthiuram disulfide
FS 3D CONCORD
MF C18 H36 N2 S4
CI COM
LC STN Files: AQUIRE, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, HODOC*, IFICDB, IFIPAT, IFIUDB, RTECS*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

221 REFERENCES IN FILE CA (1962 TO DATE)
222 REFERENCES IN FILE CAPLUS (1962 TO DATE)
14 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:154892

REFERENCE 2: 138:141877

REFERENCE 3: 138:141876

REFERENCE 4: 137:331763

REFERENCE 5: 137:325140

REFERENCE 6: 137:94624

REFERENCE 7: 137:1669

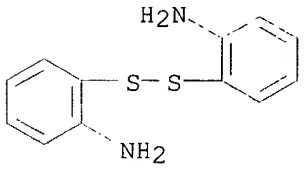
REFERENCE 8: 136:410676

REFERENCE 9: 136:351518

REFERENCE 10: 136:341988

L80 ANSWER 33 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **1141-88-4** REGISTRY
CN Benzenamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Aniline, 2,2'-dithiodi- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 1,1'-Dithiobis(2-aminobenzene)
CN 2,2'-Diaminodiphenyl disulfide
CN 2,2'-Dithiobis[aniline]
CN 2,2'-Dithiobis[benzenamine]
CN 2,2'-Dithiodianiline
CN Bis(2-aminophenyl) disulfide
CN Bis(o-aminophenyl) disulfide
CN Di(2-aminophenyl) disulfide
CN Di(o-aminophenyl) disulfide
CN Disulfide, bis(2-aminophenyl)

CN Intramine
CN NSC 8186
CN o,o'-Diaminodiphenyl disulfide
FS 3D CONCORD
MF C12 H12 N2 S2
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, NIOSHTIC, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

347 REFERENCES IN FILE CA (1962 TO DATE)
11 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
348 REFERENCES IN FILE CAPLUS (1962 TO DATE)
31 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:161022

REFERENCE 2: 138:89882

REFERENCE 3: 138:28829

REFERENCE 4: 137:269695

REFERENCE 5: 137:269670

REFERENCE 6: 137:232174

REFERENCE 7: 137:217172

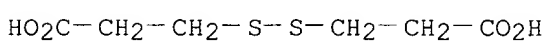
REFERENCE 8: 137:132040

REFERENCE 9: 137:73255

REFERENCE 10: 137:6162

L80 ANSWER 34 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **1119-62-6** REGISTRY
CN Propanoic acid, 3,3'-dithiobis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Propionic acid, 3,3'-dithiodi- (6CI, 7CI, 8CI)
OTHER NAMES:
CN .beta.,.beta.'-Dithiodipropionic acid
CN 2-Carboxyethyl disulfide
CN 3,3'-Dithiodipropanoic acid
CN 3,3'-Dithiodipropionic acid

CN 3,3-Dithiobispropionic acid
CN Bis(2-carboxyethyl)disulfide
CN NSC 677544
FS 3D CONCORD
MF C6 H10 O4 S2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, DETHERM*, HODOC*, IFICDB, IFIPAT, IFIUDB, NIOSHTIC, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

332 REFERENCES IN FILE CA (1962 TO DATE)
32 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
333 REFERENCES IN FILE CAPLUS (1962 TO DATE)
34 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:170116

REFERENCE 2: 138:164911

REFERENCE 3: 138:56873

REFERENCE 4: 137:375142

REFERENCE 5: 137:365926

REFERENCE 6: 137:365296

REFERENCE 7: 137:326340

REFERENCE 8: 137:257647

REFERENCE 9: 137:217315

REFERENCE 10: 137:216633

L80 ANSWER 35 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **882-33-7** REGISTRY
CN Disulfide, diphenyl (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phenyl disulfide (8CI)
OTHER NAMES:
CN Biphenyl disulfide
CN Diphenyl disulfide
CN Diphenyl disulphide
FS 3D CONCORD
MF C12 H10 S2
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Ph—S—S—Ph

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3131 REFERENCES IN FILE CA (1962 TO DATE)
14 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3137 REFERENCES IN FILE CAPLUS (1962 TO DATE)
41 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:170568

REFERENCE 2: 138:170116

REFERENCE 3: 138:153136

REFERENCE 4: 138:144020

REFERENCE 5: 138:137388

REFERENCE 6: 138:137371

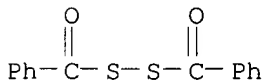
REFERENCE 7: 138:136944

REFERENCE 8: 138:136688

REFERENCE 9: 138:124213

REFERENCE 10: 138:122683

L80 ANSWER 36 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **644-32-6** REGISTRY
CN Disulfide, dibenzoyl (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzoyl disulfide (6CI, 7CI, 8CI)
OTHER NAMES:
CN Bensulfenum
CN Benthiolan
CN Dibenzoyl disulfide
CN NSC 677460
CN Septiolan
CN Thiocutol
FS 3D CONCORD
MF C14 H10 O2 S2
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DDFU, DRUGU, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, RTECS*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

142 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
142 REFERENCES IN FILE CAPLUS (1962 TO DATE)
27 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:170568

REFERENCE 2: 137:141654

REFERENCE 3: 135:24675

REFERENCE 4: 133:89319

REFERENCE 5: 132:87659

REFERENCE 6: 132:30812

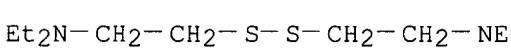
REFERENCE 7: 131:222770

REFERENCE 8: 131:136787

REFERENCE 9: 130:351899

REFERENCE 10: 130:244468

L80 ANSWER 37 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **589-32-2** REGISTRY
CN Ethanamine, 2,2'-dithiobis[N,N-diethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Triethylamine, 2,2'''-dithiobis- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 2,2'''-Dithiobistriethylamine
CN 6,7-Dithia-3,10-diazadodecane, 3,10-diethyl-
CN N,N,N',N'-Tetraethylcystamine
CN Tetraethylcystamine
FS 3D CONCORD
MF C12 H28 N2 S2
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMINFORMRX, IFICDB, IFIPAT, IFIUDB, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

65 REFERENCES IN FILE CA (1962 TO DATE)
65 REFERENCES IN FILE CAPLUS (1962 TO DATE)
14 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 136:345465

REFERENCE 2: 134:38021

REFERENCE 3: 132:30812

REFERENCE 4: 131:59141

REFERENCE 5: 130:261228

REFERENCE 6: 129:149255

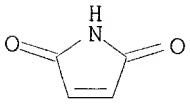
REFERENCE 7: 127:135859

REFERENCE 8: 126:27772

REFERENCE 9: 125:76341

REFERENCE 10: 121:2763

L80 ANSWER 38 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **541-59-3** REGISTRY
CN 1H-Pyrrole-2,5-dione (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Maleimide (6CI, 8CI)
OTHER NAMES:
CN 3-Pyrroline-2,5-dione
CN Maleic imide
CN Pyrrole-2,5-dione
FS 3D CONCORD
MF C4 H3 N O2
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1779 REFERENCES IN FILE CA (1962 TO DATE)
638 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1781 REFERENCES IN FILE CAPLUS (1962 TO DATE)
33 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:170042

REFERENCE 2: 138:169882

REFERENCE 3: 138:169881

REFERENCE 4: 138:166204

REFERENCE 5: 138:160900

REFERENCE 6: 138:152266

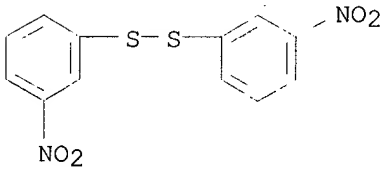
REFERENCE 7: 138:148786

REFERENCE 8: 138:147616

REFERENCE 9: 138:119557

REFERENCE 10: 138:107375

L80 ANSWER 39 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **537-91-7** REGISTRY
CN Disulfide, bis(3-nitrophenyl) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(m-nitrophenyl) (7CI, 8CI)
OTHER NAMES:
CN 3,3'-Dinitrodiphenyl disulfide
CN Bis(3-nitrophenyl) disulfide
CN Bis(m-nitrophenyl) disulfide
CN Hinagen
CN m,m'-Dinitrodiphenyl disulfide
CN Megasul
CN Nitrophenide
CN NP
CN NSC 677441
FS 3D CONCORD
DR 8052-96-8
MF C12 H8 N2 O4 S2
LC STN Files: AGRICOLA, AQUIRE, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, HODOC*, MEDLINE, MRCK*, MSDS-OHS, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

113 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
113 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:163341

REFERENCE 2: 136:340254

REFERENCE 3: 136:309714

REFERENCE 4: 136:115311

REFERENCE 5: 135:298211

REFERENCE 6: 133:327877

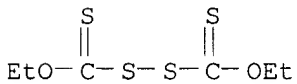
REFERENCE 7: 133:217305

REFERENCE 8: 133:163930

REFERENCE 9: 132:87659

REFERENCE 10: 132:30812

L80 ANSWER 40 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **502-55-6** REGISTRY
CN Thioperoxydicarbonic acid ([(HO)C(S)]2S2), diethyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Formic acid, dithiobis[thio-, O,O-diethyl ester (6CI, 8CI)
OTHER NAMES:
CN 3,8-Dioxa-5,6-dithiadecane-4,7-dithione
CN Antigal
CN Auligen
CN Aulin
CN Aulinogen
CN Bexide
CN Bisethylxanthogen
CN Bisethylxanthogen disulfide
CN Diethyl dixanthogen
CN Diethylxanthogen disulfide
CN Dithiobis(thioformic acid) O,O-diethyl ester
CN Dixan
CN Dixanthogen
CN EXD
CN Galasan
CN Herbisan
CN Herbisan 5
CN K Preparation
CN Lenisarin
CN NSC 402561
CN O,O-Diethyl dithiobis[thioformate]
CN Scabicidol
CN Sulfasan
CN Thioperoxydicarbonic acid diethyl ester
CN Xantoscabin
FS 3D CONCORD
MF C6 H10 O2 S4
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, USAN, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

347 REFERENCES IN FILE CA (1962 TO DATE)

5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
348 REFERENCES IN FILE CAPLUS (1962 TO DATE)
34 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:327637

REFERENCE 2: 137:301238

REFERENCE 3: 137:297680

REFERENCE 4: 137:216832

REFERENCE 5: 137:160579

REFERENCE 6: 137:157420

REFERENCE 7: 137:148701

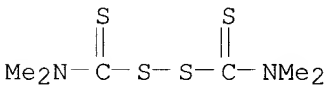
REFERENCE 8: 136:263614

REFERENCE 9: 136:108845

REFERENCE 10: 134:202288

L80 ANSWER 41 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **137-26-8** REGISTRY
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetramethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(dimethylthiocarbamoyl) (8CI)
OTHER NAMES:
CN AApirol
CN Aatiram
CN Accel TMT
CN Accelerant T
CN Accelerator T
CN Accelerator Thiuram
CN Aceto TETD
CN Anles
CN Arasan
CN Arasan 42S
CN Arasan 50 red
CN Arasan 70
CN Arasan 70-S Red
CN Arasan 75
CN Arasan M
CN Arasan-SF
CN Atiram
CN Basultra
CN Betoxin
CN Bis(dimethylthiocarbamoyl) disulfide
CN Bis(dimethylthiocarbamyl) disulfide
CN Cunitex
CN Delsan
CN Ekagom TB
CN Emol
CN ENT 987
CN Falitiram
CN Ferna-Col
CN Fernasan
CN Fernasan A
CN Fernide
CN Formalsol

CN Hermal
CN Hermat TMT
CN Heryl
CN Hexathir
CN Kregasan
CN Mercuram
CN Methyl Thiram
CN Methyl Tuads
CN Metiur
CN Metiurac
CN N,N,N',N'-Tetramethylthiuram disulfide
CN Nobecutan
CN Nocceler TT
CN Nomersan
CN Normersan
CN NSC 1771
CN Orac TMTD
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
FS 3D CONCORD
DR 12680-07-8, 12680-62-5, 56645-31-9, 66173-72-6, 93196-73-7, 39456-80-9
MF C6 H12 N2 S4
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, ULIDAT, USAN, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6295 REFERENCES IN FILE CA (1962 TO DATE)
93 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
6300 REFERENCES IN FILE CAPLUS (1962 TO DATE)
51 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:174721

REFERENCE 2: 138:172644

REFERENCE 3: 138:171595

REFERENCE 4: 138:154892

REFERENCE 5: 138:154888

REFERENCE 6: 138:154880

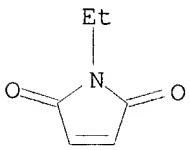
REFERENCE 7: 138:154715

REFERENCE 8: 138:141877

REFERENCE 9: 138:141876

REFERENCE 10: 138:138625

L80 ANSWER 42 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **128-53-0** REGISTRY
CN 1H-Pyrrole-2,5-dione, 1-ethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Maleimide, N-ethyl- (8CI)
OTHER NAMES:
CN Ethylmaleimide
CN Maleic acid N-ethylimide
CN N-Ethylmaleimide
CN NEM
FS 3D CONCORD
MF C6 H7 N O2
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PROMT, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2983 REFERENCES IN FILE CA (1962 TO DATE)
35 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2984 REFERENCES IN FILE CAPLUS (1962 TO DATE)
88 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:166561

REFERENCE 2: 138:163046

REFERENCE 3: 138:160900

REFERENCE 4: 138:153398

REFERENCE 5: 138:141336

REFERENCE 6: 138:119220

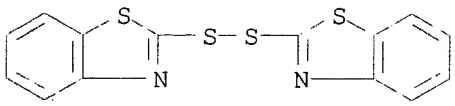
REFERENCE 7: 138:101071

REFERENCE 8: 138:95574

REFERENCE 9: 138:90206

REFERENCE 10: 138:83107

L80 ANSWER 43 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **120-78-5** REGISTRY
CN Benzothiazole, 2,2'-dithiobis- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,2'-Benzothiazolyl disulfide
CN 2,2'-Benzothiazyl disulfide
CN 2,2'-Dibenzothiazole disulfide
CN 2,2'-Dibenzothiazolyl disulfide
CN 2,2'-Dithiobis[benzothiazole]
CN 2-Benzothiazolyl disulfide
CN 2-Benzothiazyl disulfide
CN 2-Mercaptobenzothiazole disulfide
CN Accel DM
CN Accel TM
CN Altax
CN Benzothiazole disulfide
CN Benzothiazolyl disulfide
CN Benzothiazyl disulfide
CN Bis(2-benzothiazole) 2,2'-disulfide
CN Bis(2-benzothiazolyl) 2,2'-disulfide
CN Bis(2-benzothiazolyl) disulfide
CN Bis(2-benzothiazyl) disulfide
CN DBTD
CN Di-2-benzothiazolyl disulfide
CN Dibenzothiazolyl disulfide
CN Dibenzothiazyl disulfide
CN Dibenzthiazyl disulfide
CN DM
CN DM (accelerator)
CN Ekagom GS
CN MBTS
CN MBTS rubber accelerator
CN Merasulf MBTS
CN Nocceler DM
CN Nocceler DM-PO
CN NSC 677459
CN Perkacit MBTS
CN Pneumax DM
CN Royal MBTS
CN Sanceler DM
CN Soxinol DM
CN Thiofide
CN Thiofide MBTS
CN Tiazol 2MBS
CN Vulcafor MBTS
CN Vulkacit DM
CN Vulkacit DM/C
CN Vulkacit DM/MG
CN Vulkafil ZN 96TT11
CN Wobezit DM
FS 3D CONCORD
DR 109767-80-8, 137497-18-8
MF C14 H8 N2 S4
CI COM
LC STN Files: AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1767 REFERENCES IN FILE CA (1962 TO DATE)
10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1770 REFERENCES IN FILE CAPLUS (1962 TO DATE)
45 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:171614

REFERENCE 2: 138:171606

REFERENCE 3: 138:171595

REFERENCE 4: 138:170227

REFERENCE 5: 138:138655

REFERENCE 6: 138:123770

REFERENCE 7: 138:108106

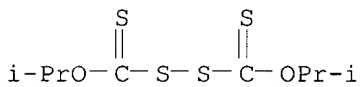
REFERENCE 8: 138:108090

REFERENCE 9: 138:108089

REFERENCE 10: 138:108088

L80 ANSWER 44 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **105-65-7** REGISTRY
CN Thioperoxydicarbonic acid ([(HO)C(S)]2S2), bis(1-methylethyl) ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Formic acid, dithiobis[thio-, O,O-diisopropyl ester (6CI, 8CI)
OTHER NAMES:
CN Bis(2-propyl) dixanthogen
CN Bis(isopropoxythiocarbonyl) disulfide
CN Bis(isopropoxythiocarbonyl)disulfane
CN Bis(isopropylxanthogen) disulfide
CN Bis(O-isopropylxanthyl) disulfide
CN Diisopropyl dixanthogen
CN Diisopropyl tetrathioperoxydicarbonate
CN Diisopropyl xanthogenate disulfide
CN Diisopropylxanthogen disulfide
CN Diproxid
CN Diproxide
CN Isopropyl xanthogen disulfide
CN NSC 1339
CN O,O-Diisopropyl dithiobis(thioformate)
FS 3D CONCORD
MF C8 H14 O2 S4
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, HODOC*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, RTECS*, SPECINFO, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

203 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
204 REFERENCES IN FILE CAPLUS (1962 TO DATE)
31 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:122922

REFERENCE 2: 138:5436

REFERENCE 3: 137:186850

REFERENCE 4: 136:355310

REFERENCE 5: 134:202288

REFERENCE 6: 133:268128

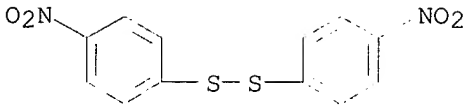
REFERENCE 7: 133:239012

REFERENCE 8: 133:237514

REFERENCE 9: 132:30812

REFERENCE 10: 131:116407

L80 ANSWER 45 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **100-32-3** REGISTRY
CN Disulfide, bis(4-nitrophenyl) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(p-nitrophenyl) (7CI, 8CI)
OTHER NAMES:
CN 4,4'-Dinitrodiphenyl disulfide
CN Bis(4-nitrophenyl) disulfide
CN Bis(p-nitrophenyl) disulfide
CN Di(p-nitrophenyl) disulfide
CN Di-4-nitrophenyl disulfide
CN NSC 677446
CN p,p'-Dinitrodiphenyl disulfide
CN p-Nitrophenyl disulfide
FS 3D CONCORD
MF C12 H8 N2 O4 S2
LC STN Files: BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

312 REFERENCES IN FILE CA (1962 TO DATE)
313 REFERENCES IN FILE CAPLUS (1962 TO DATE)
17 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:128478

REFERENCE 2: 138:4420

REFERENCE 3: 137:369981

REFERENCE 4: 137:163341

REFERENCE 5: 137:130431

REFERENCE 6: 136:309714

REFERENCE 7: 136:118106

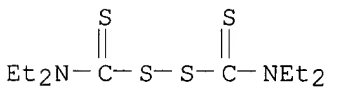
REFERENCE 8: 136:115311

REFERENCE 9: 136:53632

REFERENCE 10: 135:298211

L80 ANSWER 46 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **97-77-8** REGISTRY
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetraethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(diethylthiocarbamoyl) (8CI)
OTHER NAMES:
CN Abstensil
CN Abstinil
CN Abstinyl
CN Accel TET
CN Accel TET-R
CN Alcophobin
CN Antabus
CN Antabuse
CN Antadix
CN Antaethyl
CN Antalcol
CN Antetan
CN Antetil
CN Anticol
CN Antietanol
CN Antietil
CN Antikol
CN Antivitium
CN Aversan
CN Averzan
CN Bis(diethylthiocarbamoyl) disulfide
CN Bis(N,N-diethylthiocarbamoyl) disulfide

CN Contralin
CN Cronetal
CN Dicupral
CN Disulfiram
CN Ekagom DTET
CN Ekagom TEDS
CN Ekagom TETDS
CN Espenal
CN Esperal
CN Etabus
CN Ethyl Thiram
CN Ethyl Thiurad
CN Ethyl Tuads
CN Ethyl Tuex
CN Exhoran
CN Exhorran
CN Hoca
CN Krotenal
CN N,N,N',N'-Tetraethylthiuram disulfide
CN Nocceler TET
CN Nocceler TET-G
CN Noxal
CN NSC 25953
CN Refusal
CN Sanceler TET
CN Sanceler TET-G
CN Soxinol TET
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
FS 3D CONCORD
DR 11078-22-1, 155-01-1
MF C10 H20 N2 S4
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, DRUGUPDATES, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PHARMASEARCH, PROMT, RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2462 REFERENCES IN FILE CA (1962 TO DATE)
43 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2466 REFERENCES IN FILE CAPLUS (1962 TO DATE)
23 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:161029

REFERENCE 2: 138:154892

REFERENCE 3: 138:154880

REFERENCE 4: 138:153880

REFERENCE 5: 138:141877

REFERENCE 6: 138:141876

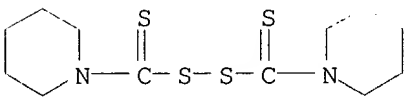
REFERENCE 7: 138:132288

REFERENCE 8: 138:123985

REFERENCE 9: 138:123984

REFERENCE 10: 138:123983

L80 ANSWER 47 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **94-37-1** REGISTRY
CN Piperidine, 1,1'-(dithiodicarbonothioyl)bis- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Disulfide, bis(piperidinothiocarbonyl) (6CI, 8CI)
OTHER NAMES:
CN 1-Piperidinethiocarbonyl disulfide
CN Bis(1-piperidylthiocarbonyl) disulfide
CN Bis(pentamethylene)thiuram disulfide
CN Bis(piperidinothiocarbonyl) disulfide
CN Dicyclopentamethylenethiuram disulfide
CN Dipentamethylenethiuram disulfide
CN Disulfide, bis(1-piperidinylthioxomethyl)
CN N,N'-Pentamethylenethiuram disulfide
CN NSC 527035
CN Robac PTD
FS 3D CONCORD
MF C12 H20 N2 S4
LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, CSNB, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, NIOSHTIC, RTECS*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

135 REFERENCES IN FILE CA (1962 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
135 REFERENCES IN FILE CAPLUS (1962 TO DATE)
15 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:173922

REFERENCE 2: 137:144483

REFERENCE 3: 137:97915

REFERENCE 4: 137:47787

REFERENCE 5: 137:1669

REFERENCE 6: 136:351518

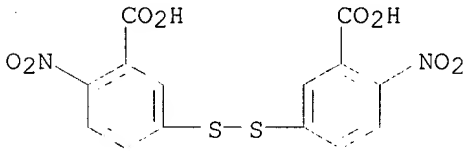
REFERENCE 7: 136:87061

REFERENCE 8: 136:73953

REFERENCE 9: 135:328241

REFERENCE 10: 135:231225

L80 ANSWER 48 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **69-78-3** REGISTRY
CN Benzoic acid, 3,3'-dithiobis[6-nitro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2,2'-Dinitro-5,5'-dithiodibenzoic acid
CN 3,3'-Dithiobis(6-nitrobenzoic acid)
CN 5,5'-Dithiobis[2-nitrobenzoic acid]
CN Ba 2767
CN DTNB
CN Named reagents and solutions, Ellman's
FS 3D CONCORD
MF C14 H8 N2 O8 S2
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1214 REFERENCES IN FILE CA (1962 TO DATE)
40 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1216 REFERENCES IN FILE CAPLUS (1962 TO DATE)
18 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:157786

REFERENCE 2: 138:121654

REFERENCE 3: 138:119150

REFERENCE 4: 138:117667

REFERENCE 5: 138:112583

REFERENCE 6: 138:68271

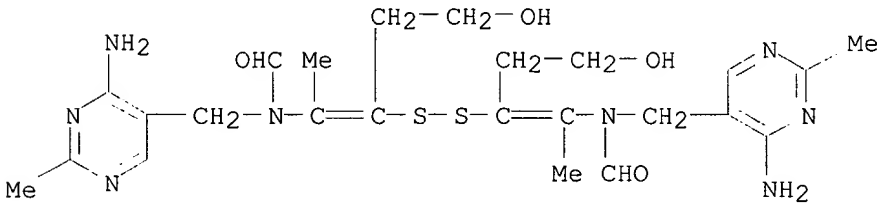
REFERENCE 7: 138:51340

REFERENCE 8: 138:50926

REFERENCE 9: 138:35734

REFERENCE 10: 138:21494

L80 ANSWER 49 OF 49 REGISTRY COPYRIGHT 2003 ACS
RN **67-16-3** REGISTRY
CN Formamide, N,N'-[dithiobis[2-(2-hydroxyethyl)-1-methyl-2,1-ethenediyl]]bis[N-[(4-amino-2-methyl-5-pyrimidinyl)methyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Formamide, N,N'-[dithiobis[2-(2-hydroxyethyl)-1-methylvinylene]]bis[N-[(4-amino-2-methyl-5-pyrimidinyl)methyl]- (7CI, 8CI)
OTHER NAMES:
CN Aktivin
CN Algoneurina
CN Alitia S
CN Aneurin disulfide
CN Aneurine disulfide
CN Apren S
CN Daiomin
CN Daisazin
CN Feidmin 5
CN N,N'-[Dithiobis[2-(2-hydroxyethyl)-1-methylvinylene]]bis[N-[(4-amino-2-methyl-5-pyrimidinyl)methyl]formamide
CN Neolamin
CN SSB1
CN TDS
CN TDS (neurotrope)
CN Thiamidin F
CN Thiamin disulfide
CN Thiamine disulfide
CN Vitamin B1 disulfide
MF C24 H34 N8 O4 S2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK*, PHAR, PROMT, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

280 REFERENCES IN FILE CA (1962 TO DATE)
7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
280 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:149113

REFERENCE 2: 136:279640

REFERENCE 3: 134:366891

REFERENCE 4: 133:263015

REFERENCE 5: 132:347366

REFERENCE 6: 132:30812

REFERENCE 7: 131:308852

REFERENCE 8: 131:291297

REFERENCE 9: 131:257023

REFERENCE 10: 131:210860

=> s l79 not l80
L81 2 L79 NOT L80

=> d ide can tot

L81 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN **13982-39-3** REGISTRY
CN Zinc, isotope of mass 65 (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 65Zn
CN Zinc-65
CN Zn 65
MF Zn
CI COM
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CIN, CSNB, EMBASE, IFICDB, IFIPAT, IFIUDB, NIOSHTIC, TOXCENTER, USPATFULL

^{65}Zn

2280 REFERENCES IN FILE CA (1962 TO DATE)
19 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2280 REFERENCES IN FILE CAPLUS (1962 TO DATE)
42 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:160097

REFERENCE 2: 138:94329

REFERENCE 3: 138:44143

REFERENCE 4: 138:29798

REFERENCE 5: 138:21378

REFERENCE 6: 138:17630

REFERENCE 7: 138:17544

REFERENCE 8: 137:369372

REFERENCE 9: 137:369212

REFERENCE 10: 137:365827

L81 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN **7440-66-6** REGISTRY
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN AN 325
CN Asarco L 15
CN Blue powder
CN Ecka 4
CN F 1000
CN F 1000 (metal)
CN F 1500T
CN F 2000
CN F 2000 (metal)
CN LS 2
CN LS 2 (element)
CN LS 4
CN LS 5
CN LS 5 (metal)
CN MCS
CN MCS (metal)
CN NC-Zinc
CN Rheinzink
CN UF
CN UF (metal)
CN VM 4P16
CN Zinc Dust 3
DR 12793-53-2, 195161-85-4, 199281-21-5, 298688-49-0
MF Zn
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PHARMASEARCH, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Zn

225889 REFERENCES IN FILE CA (1962 TO DATE)
11565 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
225965 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:179845

REFERENCE 2: 138:179828

REFERENCE 3: 138:179771

REFERENCE 4: 138:179717

REFERENCE 5: 138:179656

REFERENCE 6: 138:179557

REFERENCE 7: 138:179289

REFERENCE 8: 138:179288

REFERENCE 9: 138:179280

REFERENCE 10: 138:179167

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 14:53:49 ON 15 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 15 Mar 2003 VOL 138 ISS 12
FILE LAST UPDATED: 14 Mar 2003 (20030314/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d l78 all hitstr tot

L78 ANSWER 1 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:794242 HCAPLUS
DN 132:30812
TI Method for identifying and using compounds that **inactivate** **HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in the viral **nucleocapsid** protein
IN **Henderson, Louis E.**; **Arthur, Larry O.**; **Rice, William G.**; **Rein, Alan R.**
PA United States of America as Represented by the Department of Health and Human Services, USA
SO U.S., 30 pp., Cont.-in-part of U.S. Ser. No. 312,331, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-70
NCL 435005000
CC 1-5 (Pharmacology)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6001555	A	19991214	US 1995-379420	19950127 <--
PRAI	US 1994-312331	B2	19940923 <--		

OS MARPAT 132:30812
AB The present invention provides several classes of compds. which can be

used to **inactivate** retroviruses, e.g. **HIV**-1, by attacking the **CCHC zinc fingers** of the viral **nucleocapsid** protein and ejecting the **zinc** therefrom. In addn., kits for identifying compds. that can react with **CCHC zinc fingers** of the **nucleocapsid** proteins of a large no. of different retroviruses have also been developed. The kits of the present invention describe a set of specific tests and reagents that can be used to screen and identify compds. based on their ability to react with and disrupt retroviral **zinc fingers** in the viral NC proteins and, in turn, **inactivate** the retrovirus of interest.

ST retrovirus **nucleocapsid** protein **zinc finger** antiviral; **HIV1 nucleocapsid** protein **zinc finger** antiviral; screening antiviral retrovirus **nucleocapsid** protein **zinc finger**

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(NC(p7) (**nucleocapsid**, p7); identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)

IT Nucleotides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(analogs; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)

IT **Ketones, biological studies**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**halo**; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **Antiviral agents**
Capillary electrophoresis
Fluorometry
HPLC
Human immunodeficiency virus 1
Lentivirus
NMR spectroscopy
Retroviridae
(identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **Disulfides**
Hydrazides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT Drug screening
Redox reaction
(identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)

IT Immunoassay
(immunoblotting; identification and use of compds. **inactivating**

HIV-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**nucleocapsid**; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **Virus**
(**oncovirus**; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT Protein motifs
(**zinc finger**; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **7440-50-8**, Copper, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cupric ion; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **7439-89-6**, Iron, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ferric ion; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **69-78-3 94-37-1**, Dicyclopentamethylenethiuram disulfide **97-77-8**, Tetraethylthiuram disulfide **100-32-3 105-65-7 120-78-5 137-26-8**, Tetramethylthiuram disulfide **502-55-6**, O,O-Diethyl dithiobis(thioformate) **537-91-7 541-59-3D**, Maleimide, derivs. **589-32-2 644-32-6**, Benzoyl disulfide **1119-62-6 1141-88-4 1634-02-2**, Tetrabutylthiuram disulfide **2127-03-9**, **Aldrithiol-2 2461-75-8 2645-22-9**, Aldrithiol-4 **2889-13-6 3696-28-4 3808-87-5 4136-91-8**, Tetraisopropylthiuram disulfide **4490-97-5 5397-29-5 7038-49-5 7439-89-6D**, Iron, complexes, biological studies **7440-50-8D**, Copper, complexes, biological studies **10102-43-9**, Nitric oxide, biological studies **10102-43-9D**, Nitric oxide, derivs. **14193-38-5**, trans-1,2-Dithiane-4,5-diol **14370-67-3**, p-Tolyl disulfoxide **14756-51-5 14807-75-1**, Formamidine disulfide dihydrochloride **15658-35-2 16766-09-9 20201-05-2 24696-61-5**, 2,4-Dinitrophenyl-p-tolyl disulfide **29124-55-8 29581-98-4 33174-74-2 38262-57-6 61747-35-1 66546-28-9 72687-29-7 178487-70-2**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT **7440-66-6**, **Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(identification and use of compds. **inactivating HIV** -1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT 252295-83-3
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(identification and use of compds. **inactivating HIV** -1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

IT 144189-66-2, 3-Nitrosobenzamide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(identification and use of compds. **inactivating HIV** -1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)

IT **67-16-3**, Thiamine disulfide **128-53-0**, N-Ethylmaleimide 30516-87-1 **35964-48-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV** -1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)

IT 3544-24-9 7447-39-4, Cupric chloride, processes **156730-41-5** 252251-19-7
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(identification and use of compds. **inactivating HIV** -1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)

IT **13982-39-3**, **Zinc**-65, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(release of radioactive; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Aldovini, A; J Virol 1990, V64, P1920 HCAPLUS
(2) Berg, J; Science 1986, V232, P485 HCAPLUS
(3) Bess, J; J Virol 1992, V66, P840 HCAPLUS
(4) Buki, K; FEBS Letters 1991, V290, P181 HCAPLUS
(5) Chance, M; Proc Natl Acad Sci USA 1992, V89, P10041 HCAPLUS
(6) Coffin, J; Fields Virology Third Edition 1996, P1769
(7) Flexner; AIDS: Biology, Diagnosis, Treatment, and Prevention, fourth edition 1997, P479
(8) Gorelick, R; J Virol 1990, V64, P3207 HCAPLUS
(9) Jentoft; Proc Natl Acad Sci USA 1988, V85, P7094 HCAPLUS
(10) Johnston; Science 1993, V260, P1286 MEDLINE
(11) Kun; US 5262564 1993 HCAPLUS
(12) Kun; US 5464871 1995 HCAPLUS
(13) Kun; US 5482975 1996 HCAPLUS
(14) Kun; US 5484951 1996 HCAPLUS
(15) Kun; US 5516941 1996 HCAPLUS
(16) Kun; US 5519053 1996 HCAPLUS
(17) Mellors, J; Nature Med 1996, V2, P274 HCAPLUS
(18) Nagelkerke; Hepatology 1991, V14, P1259 HCAPLUS
(19) Rice; Adv Pharmacol 1995, V33, P389 HCAPLUS
(20) Rice; Nature (London) 1993, V361, P473 HCAPLUS

(21) Rice, W; Nature 1993, V361, P473 HCAPLUS
(22) Rice, W; PNAS 1993, V90, P9721 HCAPLUS
(23) Rice, W; Science 1995, V270, P1194 HCAPLUS
(24) South, T; Adv Inorg Biochem 1990, V8, P199 HCAPLUS
(25) South, T; Biochem Pharmacol 1990, V40, P123 HCAPLUS
(26) Wondrak, E; Journal of Biological Chemistry 1995, V269, P21948
(27) Wyand, M; AIDS Res Human Retro 1992, V8, P349 MEDLINE
(28) Yu, X; Chemical Research in Toxicology 1995, V8, P586 HCAPLUS

IT **7440-50-8**, Copper, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cupric ion; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

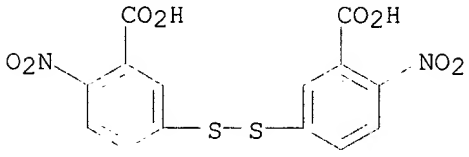
Cu

IT **7439-89-6**, Iron, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ferric ion; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)
RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

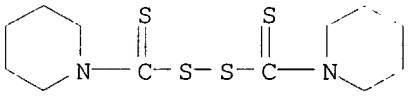
Fe

IT **69-78-3 94-37-1**, Dicyclopentamethylenethiuram disulfide **97-77-8**, Tetraethylthiuram disulfide **100-32-3 105-65-7 120-78-5 137-26-8**, Tetramethylthiuram disulfide **502-55-6**, O,O-Diethyl dithiobis(thioformate) **537-91-7 541-59-3D**, Maleimide, derivs. **589-32-2 644-32-6**, Benzoyl disulfide **1119-62-6 1141-88-4 1634-02-2**, Tetrabutylthiuram disulfide **2127-03-9**, **Aldrithiol-2 2461-75-8 2645-22-9**, Aldrithiol-4 **2889-13-6 3696-28-4 3808-87-5 4136-91-8**, Tetraisopropylthiuram disulfide **4490-97-5 5397-29-5 7038-49-5 7439-89-6D**, Iron, complexes, biological studies **7440-50-8D**, Copper, complexes, biological studies **10102-43-9**, Nitric oxide, biological studies **10102-43-9D**, Nitric oxide, derivs. **14193-38-5**, trans-1,2-Dithiane-4,5-diol **14370-67-3**, p-Tolyl disulfoxide **14756-51-5 14807-75-1**, Formamidine disulfide dihydrochloride **15658-35-2 16766-09-9 20201-05-2 24696-61-5**, 2,4-Dinitrophenyl-p-tolyl disulfide **29124-55-8 29581-98-4 33174-74-2 38262-57-6 61747-35-1 66546-28-9 72687-29-7 178487-70-2**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)

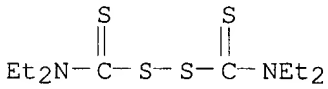
RN 69-78-3 HCAPLUS
CN Benzoic acid, 3,3'-dithiobis[6-nitro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



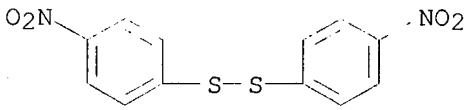
RN 94-37-1 HCAPLUS
CN Piperidine, 1,1'-(dithiodicarbonothioyl)bis- (9CI) (CA INDEX NAME)



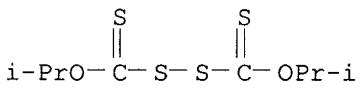
RN 97-77-8 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetraethyl- (9CI) (CA INDEX NAME)



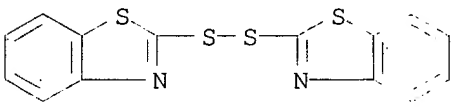
RN 100-32-3 HCAPLUS
CN Disulfide, bis(4-nitrophenyl) (9CI) (CA INDEX NAME)



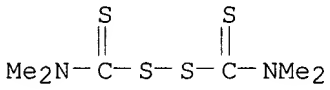
RN 105-65-7 HCAPLUS
CN Thioperoxydicarbonic acid ([(HO)C(S)]2S2), bis(1-methylethyl) ester (9CI) (CA INDEX NAME)



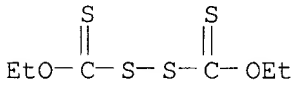
RN 120-78-5 HCAPLUS
CN Benzothiazole, 2,2'-dithiobis- (8CI, 9CI) (CA INDEX NAME)



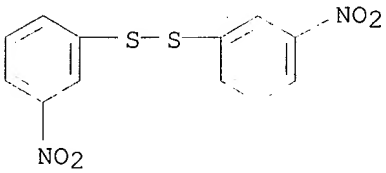
RN 137-26-8 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetramethyl- (9CI) (CA INDEX NAME)



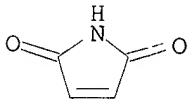
RN 502-55-6 HCAPLUS
CN Thioperoxydicarbonic acid ([(HO)C(S)]2S2), diethyl ester (9CI) (CA INDEX NAME)



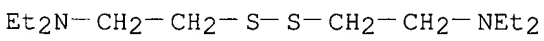
RN 537-91-7 HCAPLUS
CN Disulfide, bis(3-nitrophenyl) (9CI) (CA INDEX NAME)



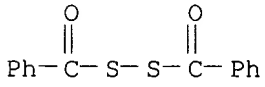
RN 541-59-3 HCAPLUS
CN 1H-Pyrrole-2,5-dione (9CI) (CA INDEX NAME)



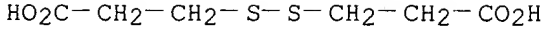
RN 589-32-2 HCAPLUS
CN Ethanamine, 2,2'-dithiobis[N,N-diethyl- (9CI) (CA INDEX NAME)



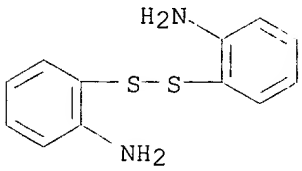
RN 644-32-6 HCAPLUS
CN Disulfide, dibenzoyl (9CI) (CA INDEX NAME)



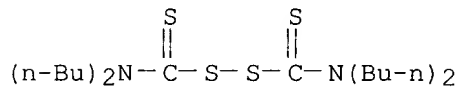
RN 1119-62-6 HCAPLUS
CN Propanoic acid, 3,3'-dithiobis- (9CI) (CA INDEX NAME)



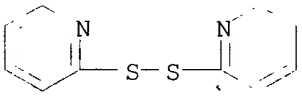
RN 1141-88-4 HCAPLUS
CN Benzenamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



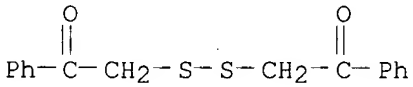
RN 1634-02-2 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetrabutyl- (9CI) (CA INDEX NAME)



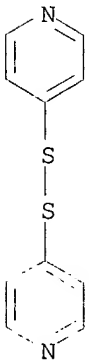
RN 2127-03-9 HCAPLUS
CN Pyridine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



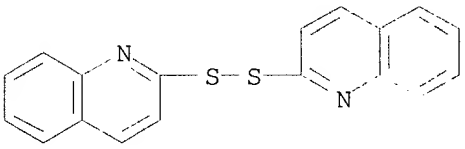
RN 2461-75-8 HCAPLUS
CN Ethanone, 2,2'-dithiobis[1-phenyl- (9CI) (CA INDEX NAME)



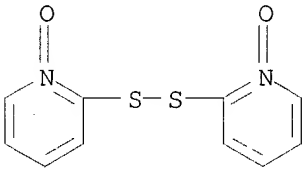
RN 2645-22-9 HCAPLUS
CN Pyridine, 4,4'-dithiobis- (9CI) (CA INDEX NAME)



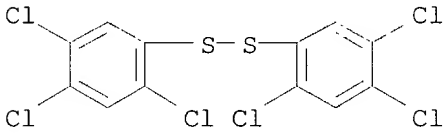
RN 2889-13-6 HCAPLUS
CN Quinoline, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



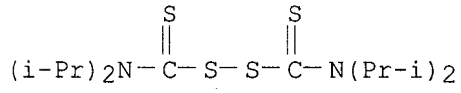
RN 3696-28-4 HCAPLUS
CN Pyridine, 2,2'-dithiobis-, 1,1'-dioxide (9CI) (CA INDEX NAME)



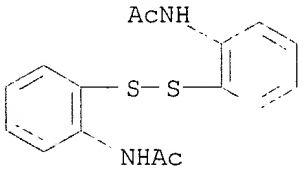
RN 3808-87-5 HCAPLUS
CN Disulfide, bis(2,4,5-trichlorophenyl) (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



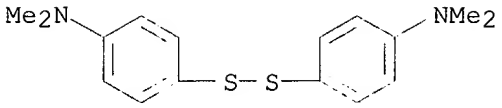
RN 4136-91-8 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



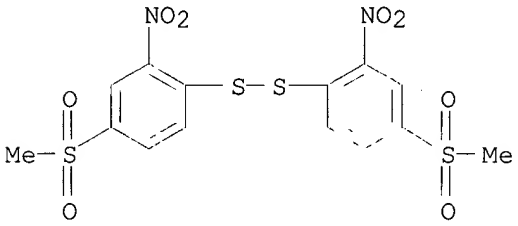
RN 4490-97-5 HCAPLUS
CN Acetamide, N,N'-(dithiodi-2,1-phenylene)bis- (9CI) (CA INDEX NAME)



RN 5397-29-5 HCAPLUS
CN Benzenamine, 4,4'-dithiobis[N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 7038-49-5 HCAPLUS
CN Disulfide, bis[4-(methylsulfonyl)-2-nitrophenyl] (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 10102-43-9 HCAPLUS
CN Nitrogen oxide (NO) (8CI, 9CI) (CA INDEX NAME)

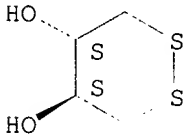
N═O

RN 10102-43-9 HCAPLUS
CN Nitrogen oxide (NO) (8CI, 9CI) (CA INDEX NAME)

N═O

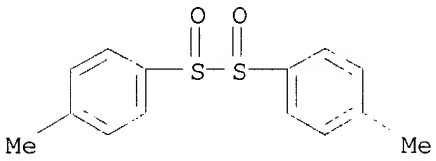
RN 14193-38-5 HCAPLUS
CN 1,2-Dithiane-4,5-diol, (4R,5R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

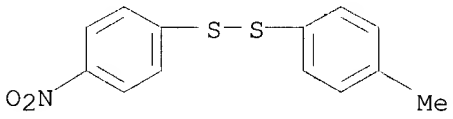


RN 14370-67-3 HCAPLUS

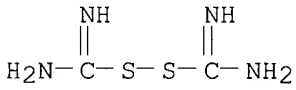
CN Disulfoxide, bis(4-methylphenyl) (9CI) (CA INDEX NAME)



RN 14756-51-5 HCAPLUS
CN Disulfide, 4-methylphenyl 4-nitrophenyl (9CI) (CA INDEX NAME)

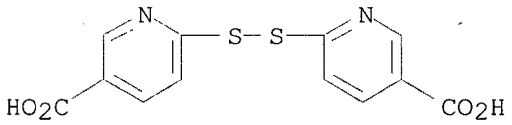


RN 14807-75-1 HCAPLUS
CN Thioperoxydicarbonimidic diamide ([(H2N)C(NH)]2S2), dihydrochloride (9CI) (CA INDEX NAME)

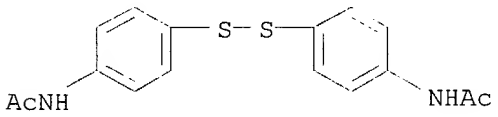


● 2 HCl

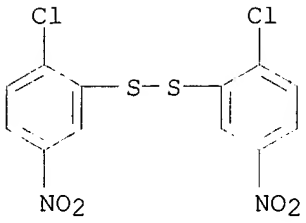
RN 15658-35-2 HCAPLUS
CN 3-Pyridinecarboxylic acid, 6,6'-dithiobis- (9CI) (CA INDEX NAME)



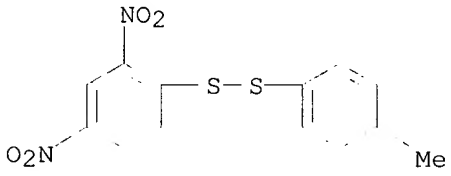
RN 16766-09-9 HCAPLUS
CN Acetamide, N,N'-(dithiodi-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



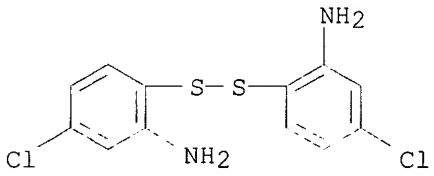
RN 20201-05-2 HCAPLUS
CN Disulfide, bis(2-chloro-5-nitrophenyl) (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 24696-61-5 HCAPLUS
CN Disulfide, 2,4-dinitrophenyl 4-methylphenyl (9CI) (CA INDEX NAME)

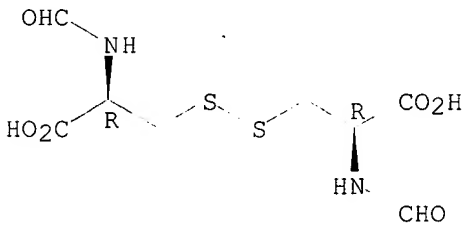


RN 29124-55-8 HCAPLUS
CN Benzenamine, 2,2'-dithiobis[5-chloro- (9CI) (CA INDEX NAME)

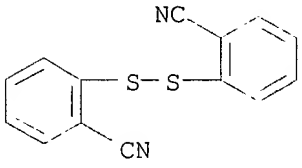


RN 29581-98-4 HCAPLUS
CN L-Cystine, N,N'-diformyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

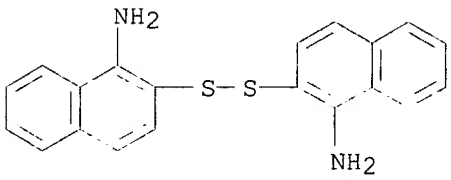


RN 33174-74-2 HCAPLUS
CN Benzonitrile, 2,2'-dithiobis- (9CI) (CA INDEX NAME)

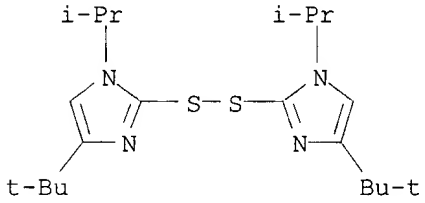


RN 38262-57-6 HCAPLUS

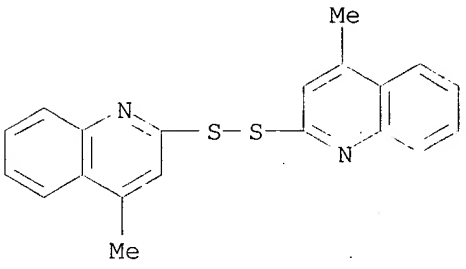
CN 1-Naphthalenamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



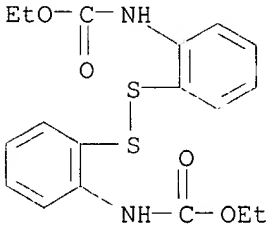
RN 61747-35-1 HCAPLUS
CN 1H-Imidazole, 2,2'-dithiobis[4-(1,1-dimethylethyl)-1-(1-methylethyl)- (9CI) (CA INDEX NAME)



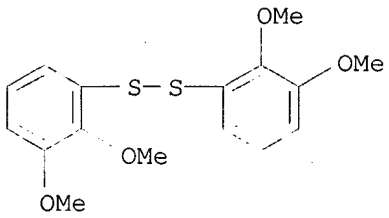
RN 66546-28-9 HCAPLUS
CN Quinoline, 2,2'-dithiobis[4-methyl- (9CI) (CA INDEX NAME)



RN 72687-29-7 HCAPLUS
CN Carbamic acid, (dithiodi-2,1-phenylene)bis-, diethyl ester (9CI) (CA INDEX NAME)



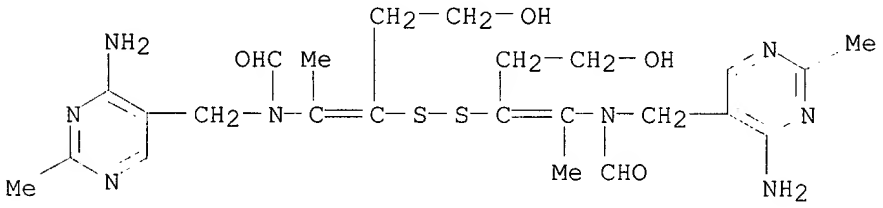
RN 178487-70-2 HCAPLUS
CN Disulfide, bis(2,3-dimethoxyphenyl) (9CI) (CA INDEX NAME)



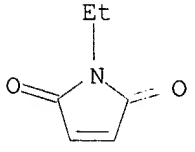
IT **7440-66-6, Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(identification and use of compds. **inactivating HIV -1** or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)
RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

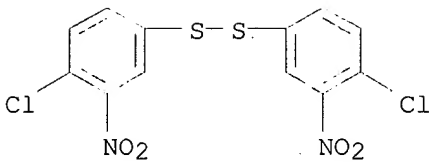
IT **67-16-3**, Thiamine disulfide **128-53-0**, N-Ethylmaleimide **35964-48-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV -1** or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)
RN 67-16-3 HCAPLUS
CN Formamide, N,N'-[dithiobis[2-(2-hydroxyethyl)-1-methyl-2,1-ethenediyl]]bis[N-[(4-amino-2-methyl-5-pyrimidinyl)methyl]- (9CI) (CA INDEX NAME)



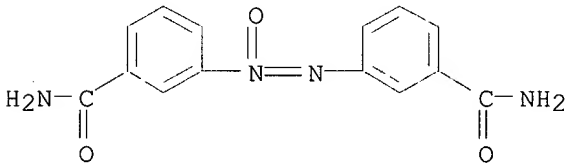
RN 128-53-0 HCAPLUS
CN 1H-Pyrrole-2,5-dione, 1-ethyl- (9CI) (CA INDEX NAME)



RN 35964-48-8 HCAPLUS
CN Disulfide, bis(4-chloro-3-nitrophenyl) (9CI) (CA INDEX NAME)



IT **156730-41-5**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(identification and use of compds. **inactivating HIV** -1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein. and use with other agents)
RN 156730-41-5 HCAPLUS
CN Benzamide, 3,3'-azoxybis- (9CI) (CA INDEX NAME)



IT **13982-39-3, Zinc**-65, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(release of radioactive; identification and use of compds. **inactivating HIV**-1 or other retrovirus by attacking highly conserved **zinc finger** in viral **nucleocapsid** protein)
RN 13982-39-3 HCAPLUS
CN Zinc, isotope of mass 65 (8CI, 9CI) (CA INDEX NAME)

^{65}Zn

L78 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:422386 HCAPLUS
DN 125:76341
TI A method for identifying and using compounds that **inactivate HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in the viral **nucleocapsid** protein
IN **Henderson, Louis E.**; **Arthur, Larry O.**; **Rice, William G.**
PA United States Dept. of Health and Human Services, USA
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-18
ICS A61K031-04; A61K031-095; A61K031-12; A61K031-15; A61K031-295; A61K031-30; A61K031-40
CC 1-5 (Pharmacology)
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9609406	A1	19960328	WO 1995-US11915	19950919 <--

W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,

GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9535927 A1 19960409 AU 1995-35927 19950919 <--
EP 782632 A1 19970709 EP 1995-933161 19950919 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
PRAI US 1994-312331 A 19940923 <--
WO 1995-US11915 W 19950919 <--
OS MARPAT 125:76341
AB Several classes of compds. (disulfides, maleimides, .alpha.-halogenated ketones, hydrazides, nitric oxide and NO-contg. derivs., cupric ions and complexes thereof, ferric ions and complexes thereof) are provided which can be used to **inactivate** retroviruses, e.g. **HIV**-1, by attacking the **CCHC zinc fingers** of the viral **nucleocapsid** protein and ejecting the **zinc** therefrom. In addn., kits for identifying compds. that can react with **CCHC zinc fingers** of the **nucleocapsid** proteins of a large no. of different retroviruses have also been developed. The kits of the present invention describe a set of specific tests and reagents that can be used to screen and identify compds. based on their ability to react with and disrupt retroviral **zinc fingers** in the viral NC proteins and, in turn, **inactivate** the retrovirus of interest. The effect of e.g. disulfides on **HIV**-1 is included.
ST retrovirus **nucleocapsid** protein **zinc finger inactivation**; **HIV1 nucleocapsid** protein **zinc finger inactivation**
IT Fluorometry
Nuclear magnetic resonance
(detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
IT Electrophoresis and Ionophoresis
(gel mobility shift; detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
IT Electron acceptors
Virucides and Virustats
(identification and use of compds. **inactivating HIV** -1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
IT **Disulfides**
Hydrazides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV** -1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
IT Proteins, specific or class
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(**nucleocapsid** p11; identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(NC(p7) (**nucleocapsid**, p7), identification and use of compds.

inactivating HIV-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT Nucleotides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(analogs, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein, and use with addnl. nucleotide analog)

IT Electrophoresis and Ionophoresis
(capillary, detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **Virus, animal**
(**equine infectious anemia**, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **Ketones, biological studies**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**halo**, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT Chromatography, column and liquid
(high-performance, detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **Virus, animal**
(**human immunodeficiency 1**, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT Immunoassay
(immunoblotting, detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **Virus, animal**
(**lenti-**, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**nucleocapsid**, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT Virus, animal
(oncogenic, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **Virus, animal**
(**retro-**, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT Conformation and Conformers
(**zinc-finger** motif, identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **7440-50-8**, Copper, biological studies **7440-50-8D**, Copper, complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cupric ion; identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **13982-39-3**, **Zinc**-65, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **7439-89-6**, Iron, biological studies **7439-89-6D**, Iron, complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ferric ion; identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **67-16-3**, Thiamine disulfide **69-78-3 94-37-1**, Dicyclopentamethylenethiuram disulfide **97-77-8**, Tetraethylthiuram disulfide **100-32-3** 108-25-8 **120-78-5 128-53-0**, N-Ethylmaleimide **137-26-8**, Tetramethylthiuram disulfide **502-55-6**, O,O-Diethyldithiobis(thioformate) **537-91-7**, Bis 3-Nitrophenyl disulfide **589-32-2 644-32-6**, Benzoyl disulfide **1119-62-6**, 3,3-Dithiobispropionic acid **1141-88-4 1634-02-2**, Tetrabutylthiuram disulfide **2127-03-9**, **Aldrithiol-2 2461-75-8 2645-22-9**, Aldrithiol-4 **2889-13-6 3696-28-4 3808-87-5**, Bis 2,4,5-Trichlorophenyl disulfide **4136-91-8**, Tetraisopropylthiuram disulfide **4490-97-5 5397-29-5** 5428-99-9 7447-39-4, Cupric chloride, biological studies **14193-38-5**, trans-1,2-Dithiane-4,5-diol **14370-67-3**, p-Tolyl disulfoxide **14807-75-1**, Formamidine disulfide dihydrochloride **15658-35-2 16766-09-9 20201-05-2**, Bis 2-Chloro-5-nitrophenyl disulfide **24696-61-5**, 2,4-Dinitrophenyl p-tolyl disulfide **29124-55-8 29581-98-4 33174-74-2**, 2,2-Dithiobis(benzonitrile) **35964-48-8 38262-57-6** 40897-56-1 **61747-35-1 66546-28-9 72687-29-7** 144189-66-2, 3-Nitrosobenzamide **178487-70-2**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **7440-66-6**, **Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT **541-59-3D**, Maleimide, derivs. **10102-43-9**, Nitric oxide, biological studies **10102-43-9D**, Nitric oxide, derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV**

-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

IT 30516-87-1, AZT
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV** -1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein, and use with addnl. nucleotide analog)

IT **7440-50-8**, Copper, biological studies **7440-50-8D**, Copper, complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cupric ion; identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

IT **13982-39-3**, **Zinc**-65, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(detection of **zinc** dissocn. from **zinc finger** in relation to identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

RN 13982-39-3 HCAPLUS
CN Zinc, isotope of mass 65 (8CI, 9CI) (CA INDEX NAME)

^{65}Zn

IT **7439-89-6**, Iron, biological studies **7439-89-6D**, Iron, complexes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ferric ion; identification and use of compds. **inactivating HIV**-1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

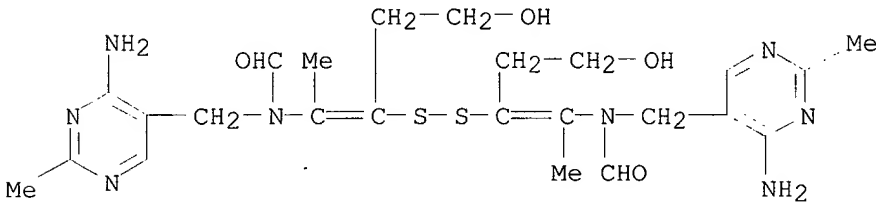
Fe

RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

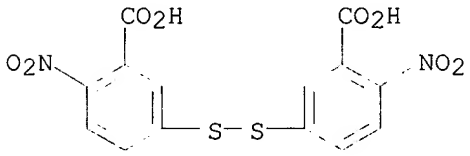
Fe

IT **67-16-3**, Thiamine disulfide **69-78-3 94-37-1**, Dicyclopentamethylenethiuram disulfide **97-77-8**, Tetraethylthiuram disulfide **100-32-3 120-78-5 128-53-0**, N-Ethylmaleimide **137-26-8**, Tetramethylthiuram disulfide **502-55-6**, O,O-Diethyldithiobis(thioformate) **537-91-7**, Bis 3-Nitrophenyl disulfide **589-32-2 644-32-6**, Benzoyl disulfide **1119-62-6**, 3,3-Dithiobispropionic acid **1141-88-4 1634-02-2**, Tetrabutylthiuram disulfide **2127-03-9**, **Aldrithiol-2 2461-75-8 2645-22-9**, Aldrithiol-4 **2889-13-6 3696-28-4 3808-87-5**, Bis 2,4,5-Trichlorophenyl disulfide **4136-91-8**, Tetraisopropylthiuram disulfide **4490-97-5 5397-29-5 14193-38-5**, trans-1,2-Dithiane-4,5-diol **14370-67-3**, p-Tolyl disulfoxide **14807-75-1**, Formamidine disulfide dihydrochloride **15658-35-2 16766-09-9 20201-05-2**, Bis 2-Chloro-5-nitrophenyl disulfide **24696-61-5**, 2,4-Dinitrophenyl p-tolyl disulfide **29124-55-8 29581-98-4 33174-74-2**, 2,2-Dithiobis(benzonitrile) **35964-48-8 38262-57-6 61747-35-1 66546-28-9 72687-29-7 178487-70-2**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV-1** and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)

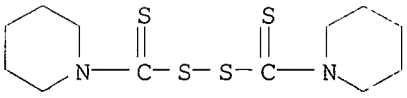
RN 67-16-3 HCAPLUS
CN Formamide, N,N'-[dithiobis[2-(2-hydroxyethyl)-1-methyl-2,1-ethenediyl]]bis[N-[(4-amino-2-methyl-5-pyrimidinyl)methyl]- (9CI) (CA INDEX NAME)



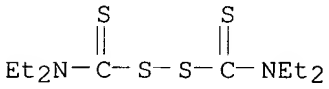
RN 69-78-3 HCAPLUS
CN Benzoic acid, 3,3'-dithiobis[6-nitro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



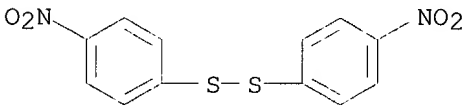
RN 94-37-1 HCAPLUS
CN Piperidine, 1,1'-(dithiodicarbonothioyl)bis- (9CI) (CA INDEX NAME)



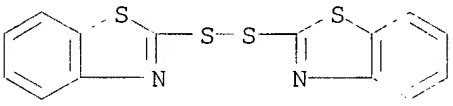
RN 97-77-8 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetraethyl- (9CI) (CA INDEX NAME)



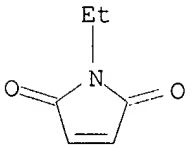
RN 100-32-3 HCAPLUS
CN Disulfide, bis(4-nitrophenyl) (9CI) (CA INDEX NAME)



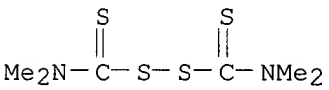
RN 120-78-5 HCAPLUS
CN Benzothiazole, 2,2'-dithiobis- (8CI, 9CI) (CA INDEX NAME)



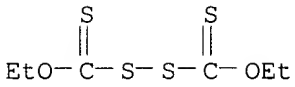
RN 128-53-0 HCAPLUS
CN 1H-Pyrrole-2,5-dione, 1-ethyl- (9CI) (CA INDEX NAME)



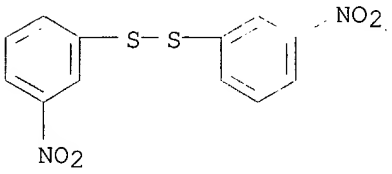
RN 137-26-8 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetramethyl- (9CI) (CA INDEX NAME)



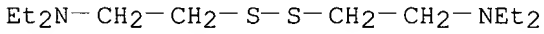
RN 502-55-6 HCAPLUS
CN Thioperoxydicarbonic acid ([(HO)C(S)]2S2), diethyl ester (9CI) (CA INDEX NAME)



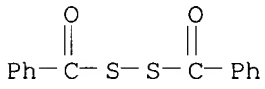
RN 537-91-7 HCAPLUS
CN Disulfide, bis(3-nitrophenyl) (9CI) (CA INDEX NAME)



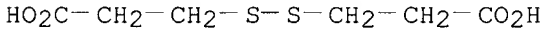
RN 589-32-2 HCAPLUS
CN Ethanamine, 2,2'-dithiobis[N,N-diethyl- (9CI) (CA INDEX NAME)



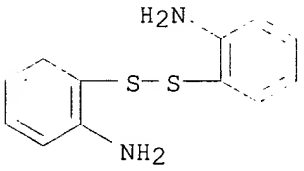
RN 644-32-6 HCAPLUS
CN Disulfide, dibenzoyl (9CI) (CA INDEX NAME)



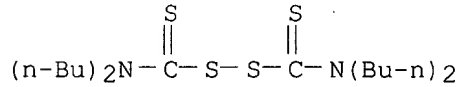
RN 1119-62-6 HCAPLUS
CN Propanoic acid, 3,3'-dithiobis- (9CI) (CA INDEX NAME)



RN 1141-88-4 HCAPLUS
CN Benzenamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)

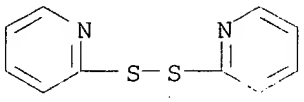


RN 1634-02-2 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetrabutyl- (9CI) (CA INDEX NAME)

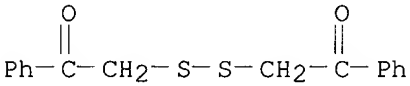


RN 2127-03-9 HCAPLUS

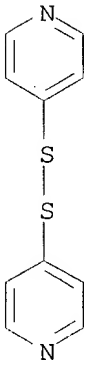
CN Pyridine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



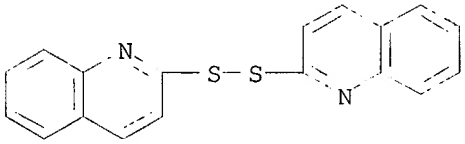
RN 2461-75-8 HCAPLUS
CN Ethanone, 2,2'-dithiobis[1-phenyl- (9CI) (CA INDEX NAME)



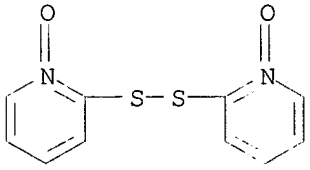
RN 2645-22-9 HCAPLUS
CN Pyridine, 4,4'-dithiobis- (9CI) (CA INDEX NAME)



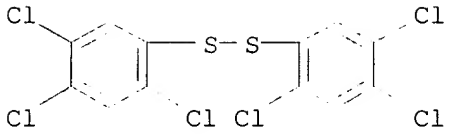
RN 2889-13-6 HCAPLUS
CN Quinoline, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



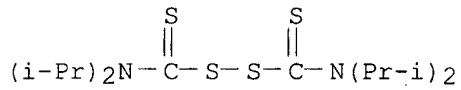
RN 3696-28-4 HCAPLUS
CN Pyridine, 2,2'-dithiobis-, 1,1'-dioxide (9CI) (CA INDEX NAME)



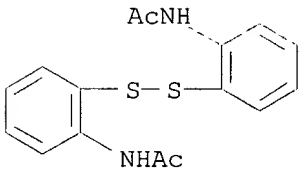
RN 3808-87-5 HCAPLUS
CN Disulfide, bis(2,4,5-trichlorophenyl) (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



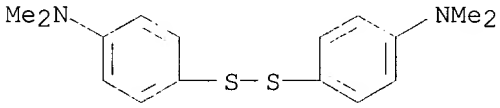
RN 4136-91-8 HCAPLUS
CN Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetrakis(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 4490-97-5 HCAPLUS
CN Acetamide, N,N'-(dithiodi-2,1-phenylene)bis- (9CI) (CA INDEX NAME)

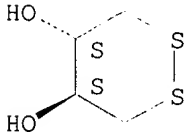


RN 5397-29-5 HCAPLUS
CN Benzenamine, 4,4'-dithiobis[N,N-dimethyl- (9CI) (CA INDEX NAME)

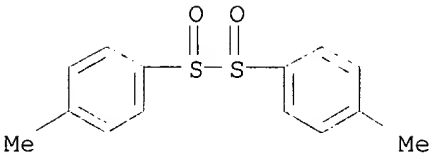


RN 14193-38-5 HCAPLUS
CN 1,2-Dithiane-4,5-diol, (4R,5R)-rel- (9CI) (CA INDEX NAME)

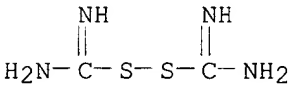
Relative stereochemistry.



RN 14370-67-3 HCAPLUS
CN Disulfoxide, bis(4-methylphenyl) (9CI) (CA INDEX NAME)

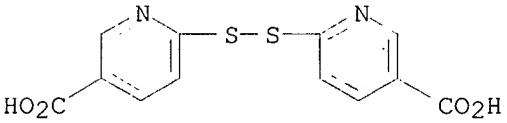


RN 14807-75-1 HCAPLUS
CN Thioperoxydicarbonimidic diamide ([(H2N)C(NH)]2S2), dihydrochloride (9CI) (CA INDEX NAME)

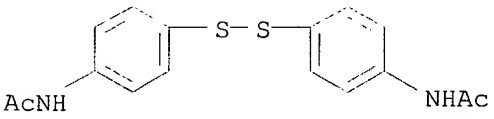


●2 HCl

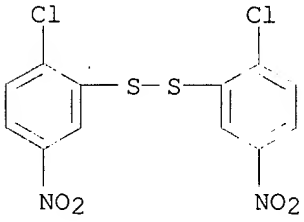
RN 15658-35-2 HCAPLUS
CN 3-Pyridinecarboxylic acid, 6,6'-dithiobis- (9CI) (CA INDEX NAME)



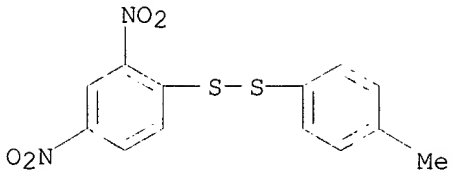
RN 16766-09-9 HCAPLUS
CN Acetamide, N,N'-(dithiodi-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



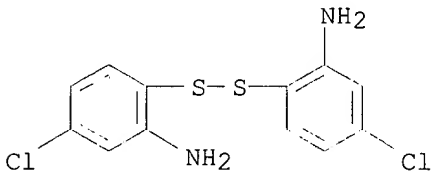
RN 20201-05-2 HCAPLUS
CN Disulfide, bis(2-chloro-5-nitrophenyl) (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 24696-61-5 HCAPLUS
CN Disulfide, 2,4-dinitrophenyl 4-methylphenyl (9CI) (CA INDEX NAME)

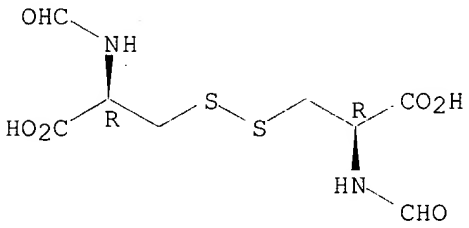


RN 29124-55-8 HCAPLUS
CN Benzenamine, 2,2'-dithiobis[5-chloro- (9CI) (CA INDEX NAME)

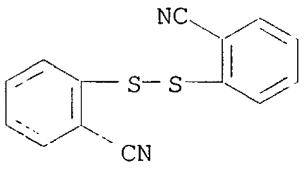


RN 29581-98-4 HCAPLUS
CN L-Cystine, N,N'-diformyl- (9CI) (CA INDEX NAME)

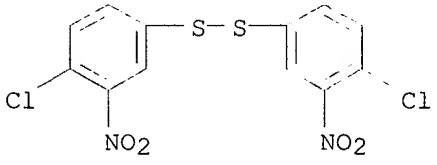
Absolute stereochemistry.



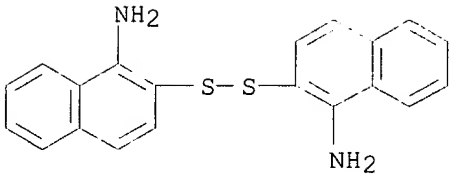
RN 33174-74-2 HCAPLUS
CN Benzonitrile, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



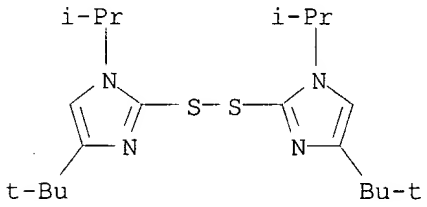
RN 35964-48-8 HCAPLUS
CN Disulfide, bis(4-chloro-3-nitrophenyl) (9CI) (CA INDEX NAME)



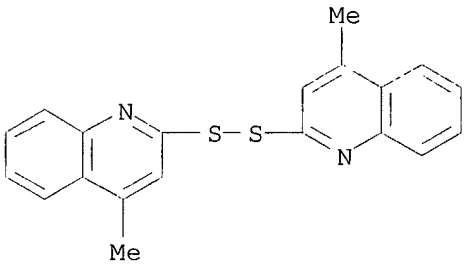
RN 38262-57-6 HCAPLUS
CN 1-Naphthalenamine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



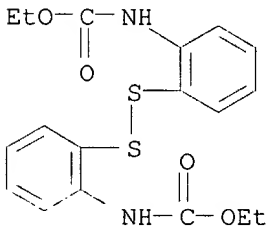
RN 61747-35-1 HCAPLUS
CN 1H-Imidazole, 2,2'-dithiobis[4-(1,1-dimethylethyl)-1-(1-methylethyl)-(9CI) (CA INDEX NAME)



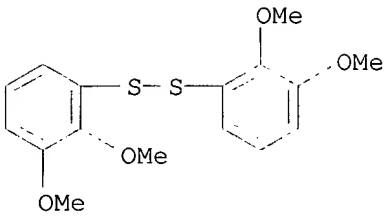
RN 66546-28-9 HCAPLUS
CN Quinoline, 2,2'-dithiobis[4-methyl- (9CI) (CA INDEX NAME)



RN 72687-29-7 HCAPLUS
CN Carbamic acid, (dithiodi-2,1-phenylene)bis-, diethyl ester (9CI) (CA INDEX NAME)



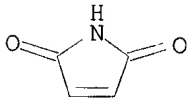
RN 178487-70-2 HCAPLUS
CN Disulfide, bis(2,3-dimethoxyphenyl) (9CI) (CA INDEX NAME)



IT **7440-66-6, Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(identification and use of compds. **inactivating HIV** -1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

IT **541-59-3D**, Maleimide, derivs. **10102-43-9**, Nitric oxide, biological studies **10102-43-9D**, Nitric oxide, derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification and use of compds. **inactivating HIV** -1 and other retroviruses by attacking highly conserved **zinc fingers** in viral **nucleocapsid** protein)
RN 541-59-3 HCAPLUS
CN 1H-Pyrrole-2,5-dione (9CI) (CA INDEX NAME)



RN 10102-43-9 HCAPLUS
CN Nitrogen oxide (NO) (8CI, 9CI) (CA INDEX NAME)

N═O

RN 10102-43-9 HCAPLUS
CN Nitrogen oxide (NO) (8CI, 9CI) (CA INDEX NAME)

N═O

L78 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:350612 HCAPLUS
DN 125:86322
TI Aryl nitroso compounds as specific **inactivators** of retroviral (asymmetric) **zinc fingers** and as anti-tumor agents
IN Kun, Ernest; Mendeleyev, Jerome
PA Octamer, Inc., USA
SO U.S., 28 pp., Cont.-in-part of U.S. Ser. No. 893,429, abandoned.

CODEN: USXXAM
DT Patent
LA English
IC ICM C07C231-08
NCL 564166000
CC 25-19 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1, 63
FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5516941	A	19960514	US 1992-965541	19921102 <--
	CA 2148455	AA	19940511	CA 1993-2148455	19931004 <--
	WO 9409776	A1	19940511	WO 1993-US9457	19931004 <--
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9352986	A1	19940524	AU 1993-52986	19931004 <--
	EP 666742	A1	19950816	EP 1993-923226	19931004 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 10504517	T2	19980506	JP 1993-511074	19931004 <--
	US 5877185	A	19990302	US 1995-377584	19950113 <--
	US 5652260	A	19970729	US 1995-488425	19950607 <--
	US 5753674	A	19980519	US 1995-488426	19950607 <--
PRAI	US 1991-780809	A2	19911022 <--		
	US 1992-893429	B2	19920604 <--		
	US 1992-965541	A	19921102 <--		
	US 1993-60409	B2	19930512 <--		
	US 1993-76313	A2	19930611 <--		
	US 1993-87566	A	19930702 <--		
	WO 1993-US9457	W	19931004 <--		

OS CASREACT 125:86322; MARPAT 125:86322
AB The subject invention provides for novel compds. for **inactivating** viruses, including 6-nitroso-1,2-benzopyrone, 3-nitrosobenzamide, 5-nitroso-1(2H)isoquinolinone, 7-nitroso-1(2H)-isoquinolinone, and 8-nitroso-1(2H)-isoquinolinone. The prodn. of 3-nitrosobenzamide comprises the oxidn. of 3-aminobenzamide, pptn. of 3-nitrosobenzamide and 3,3'-azoxybenzamide, and recrystn. of substantially pure 3-nitrosobenzamide. Thus, a soln. of 3-aminobenzamide (5.0 g) in DMF (25 mL) at ice-bath temp. was added to a soln. of 3-chloroperoxybenzoic acid (2.1 equiv) in DMF (25 mL) at 0.degree.-5.degree.; filtration (to remove 3,3'-azoxybenzamide) and workup afforded 3-nitrosobenzamide (mostly as the tan dimer) contg. residual 3,3'-azoxybenzamide; further purifn. involving treatment with aq. HOAc to dissolve the dimer into the solid monomer afforded 3-nitrosobenzamide in 37% overall yield. 3-Nitrosobenzamide exhibited IC50 = 15 .mu.M for inhibition of ADP-ribose transferase (ADPRT) (E.C. 4.2.30), inhibited 3H-thymidine uptake in various human leukemia cell lines at a concn. of 10 .mu.M, and at 10 .mu.M caused a three log decrease in the **HIV**-1 infectivity titer. An NMR study demonstrated that 3-nitrosobenzamide reacted stoichiometrically with the N-terminal **CCHC zinc finger** of **HIV** -1 **nucleocapsid** protein, resulting in the ejection of Zn2+.
ST antiretroviral nitrosoarene prepn **zinc finger** deactivation; retroviral **zinc finger** deactivation nitrosoarene; antitumor aryl nitroso compd; **HIV** inhibitor aryl nitroso compd; ADP ribose transferase inhibitor nitrosoarene
IT Neoplasm inhibitors
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT Nucleic acids
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)
(dissocn. of **HIV**-1 **zinc finger**-nucleic acid complex; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as

anti-tumor agents)
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)
(retroviral **nucleocapsid**; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT Nitroso compounds
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(aryl, aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT **Virus, animal**
(**human immunodeficiency 1**, aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT Conformation and Conformers
(**zinc-finger** motif, aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT 64-19-7, Acetic acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(aq. recrystn. solvent; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT 130506-22-8P, 6-Nitroso-1,2-benzopyrone 144189-66-2P, 3-Nitrosobenzamide 149095-76-1P, 5-Nitroso-1(2H)-isoquinolinone 149095-77-2P, 7-Nitroso-1(2H)-isoquinolinone
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT 142404-02-2, 5-Iodo-6-nitroso-1,2-benzopyrone
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT 58319-92-9
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT **156730-41-5P**, 3,3'-Azoxybenzamide
RL: BYP (Byproduct); PREP (Preparation)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT 491-30-5, Isocarbostyril 937-14-4, 3-Chloroperoxybenzoic acid 3544-24-9, 3-Aminobenzamide 63989-79-7, 6-Amino-1,2-benzopyrone hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)
IT 20141-83-7P, 7-Nitro-1(2H)-isoquinolinone 82827-08-5P, 5-Nitro-1(2H)-isoquinolinone 93117-08-9P, 5-Amino-1(2H)-isoquinolinone 174302-45-5P, 3-Nitrosobenzamide dimer 174302-46-6P, 7-Amino-1(2H)-isoquinolinone
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

IT **7440-66-6, Zinc**, biological studies
RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)
(ejection from **zinc fingers**; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

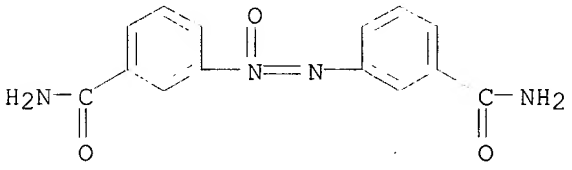
IT 14415-44-2, 6-Amino-1,2-benzopyrone 137881-27-7, 6-Amino-5-iodo-1,2-benzopyrone
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nitroso precursor; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

IT 497-19-8, Sodium carbonate, uses
RL: NUU (Other use, unclassified); USES (Uses)
(pptn. agent; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

IT 68-12-2, DMF, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

IT **156730-41-5P**, 3,3'-Azoxybenzamide
RL: BYP (Byproduct); PREP (Preparation)
(aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

RN 156730-41-5 HCAPLUS
CN Benzamide, 3,3'-azoxybis- (9CI) (CA INDEX NAME)



IT **7440-66-6, Zinc**, biological studies
RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)
(ejection from **zinc fingers**; aryl nitroso compds. as specific **inactivators** of retroviral (asym.) **zinc fingers** and as anti-tumor agents)

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:301103 HCAPLUS
DN 124:330782
TI Preparation of salicylhydrazinotriazine chelates as antioxidant drugs.
PA Medico Pharma Vertriebs- Gmbh, Germany
SO Ger. Offen., 5 pp.

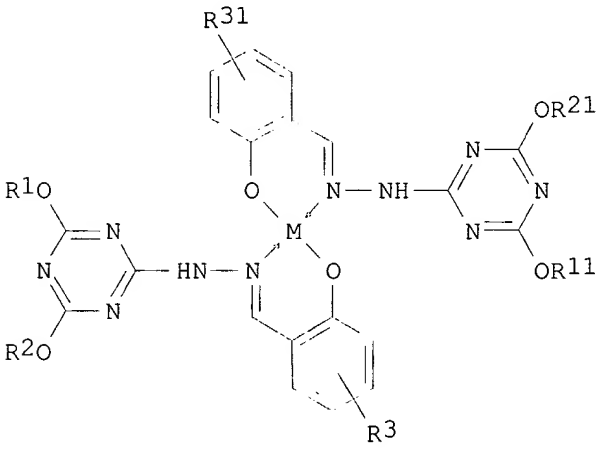
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07D251-46
ICS C07F001-08; A61K031-53; A61K031-28; A61K031-095; C07F003-06; C07F003-08; C07F013-00
ICA C07D251-26
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 1, 28
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4431176	A1	19960307	DE 1994-4431176	19940901 <--
	WO 9606836	A2	19960307	WO 1995-EP3427	19950831 <--
	WO 9606836	A3	19960523		

W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	AU 9535195	A1	19960322	AU 1995-35195	19950831 <--
PRAI	DE 1994-4431176		19940901 <--		
	WO 1995-EP3427		19950831 <--		

OS MARPAT 124:330782
GI



I

AB Title compds. (I; M = divalent element; R1, R11, R2, R21 = alkyl; R3, R31 = H, halo, NO2, alkyl), were prepd. for treating viral infection, inflammation, autoimmune disease, neurodegenerative disease, and cancer (no data). Thus, salicylaldehyde 2,4-dimethoxy-1,3,5-triazinyl-6-hydrazone (prepn. given) in aq. NaOH at 60.degree. was treated with CuCl2 to give 88% I (R1, R11, R2, R21 = OMe; R3, R31 = H).

ST salicylhydrazinotriazine chelate prepn antioxidant drug; polyradiculoneuritis treatment salicylhydrazinotriazine chelate prepn; antiinflammatory antiviral anticancer salicylhydrazinotriazine chelate
IT Antioxidants
(biol.; prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT Immunosuppressants
Inflammation inhibitors
Neoplasm inhibitors

Virucides and Virustats
(prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT Autoimmune disease
Multiple sclerosis
(treatment; prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT Nervous system
(disease, Guillain-Barre syndrome, treatment; prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT Nervous system
(disease, degeneration, treatment; prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT Virus, animal
(herpes, infection from, treatment; prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT **Virus, animal**
(**human immunodeficiency**, treatment of **HIV** infection; prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT 7439-96-5DP, Manganese, salicylhydrazinotriazine complexes 7440-43-9DP, Cadmium, salicylhydrazinotriazine complexes **7440-50-8DP**, Copper, salicylhydrazinotriazine complexes **7440-66-6DP**, **Zinc**, salicylhydrazinotriazine complexes 7782-49-2DP, Selenium, salicylhydrazinotriazine complexes 176541-70-1P 176541-71-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT 90-02-8, Salicylaldehyde, reactions 302-01-2, Hydrazine, reactions 698-27-1, 4-MethylSalicylaldehyde 3140-73-6, 2,4-Dimethoxy-6-chloro-1,3,5-triazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT 13882-61-6P, 2,4-Dimethoxy-6-hydrazino-1,3,5-triazine 145855-02-3P 176541-72-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
IT **7440-50-8DP**, Copper, salicylhydrazinotriazine complexes
7440-66-6DP, **Zinc**, salicylhydrazinotriazine complexes
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of salicylhydrazinotriazine chelates as antioxidant drugs)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:128017 HCAPLUS
DN 124:194289
TI Cage compounds, their preparation and use as antiviral agents

IN Marcuccio, Sebastian Mario; Turner, Kathleen Anne; Holan, George; Osvath, Peter; Sargeson, Alan Mcleod; Weigold, Helmut; Geue, Rodney
PA Commonwealth Scientific and Industrial Research, Australia
SO PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-555
ICS C07D487-08; C07D495-08; C07D513-08
CC 1-5 (Pharmacology)
Section cross-reference(s): 28, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9531202	A1	19951123	WO 1995-AU283	19950517 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9524397	A1	19951205	AU 1995-24397	19950517 <--
	ZA 9504017	A	19960117	ZA 1995-4017	19950517 <--

PRAI AU 1994-5656 19940517 <--
AU 1994-5720 19940519 <--
WO 1995-AU283 19950517 <--
OS CASREACT 124:194289; MARPAT 124:194289
GI For diagram(s), see printed CA Issue.
AB A method of treatment and/or prophylaxis of a viral infection comprises administration of a cage compd. [I; M = metal capable of forming hexacoordinate complexes; p = 1-6; m, n = 0, 1; A1-A6 = NH, N, O, S; R1, R2 = H, halo, NO2, CN, (substituted) alkyl, OH, (substituted) alkoxy, (substituted) amino, etc.; other positions may be variously substituted]. I are prepd. by reacting a metal complex having .gtoreq.3 terminal NH2 groups with HCHO, a base, and a nucleophile optionally contg. a functional group which may react with any coordinated amine also present on the metal complex, leading to encapsulation and formation of a cage mol. Thus, Co complex II [X = Me; Y = (C8H17)2N(CH2)2NH] showed an ED50 of 0.53 .mu.M against **HIV**-1 in MT-4 cells in vitro, and 3 .mu.M against duck hepatitis B virus in primary duck hepatocyte cultures. The compds. were nontoxic to mice at .ltoreq.50 mg/kg. [Co(sen)].Cl3 [sen = 5-(4-amino-2-azabutyl)-5-methyl-3,7-diazanonane-1,9-diamine] reacted with paraformaldehyde and n-butanal in MeCN in the presence of NaClO4 to form II (X = Me; Y = Et). Controlled-release tablets were prepd. by wet granulation of active ingredient 500, hydroxypropylmethylcellulose 112, lactose 53, and povidone 28 mg, followed by addn. of 7 mg Mg stearate and compression.
ST cage compd prepn virucide; metal cage complex virucide
IT Encephalitis
(-arthritis, in dog, virus-induced; cage compds.: prepn. and use as antiviral agents)
IT Acquired immune deficiency syndrome
Dengue
Veterinary medicine
Virucides and Virustats
Yellow fever
(cage compds.: prepn. and use as antiviral agents)
IT Nucleophiles
RL: RCT (Reactant); RACT (Reactant or reagent)
(cage compds.: prepn. and use as antiviral agents)
IT Alkali metals, biological studies
Alkaline earth metals

Transition metals, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(clathrates; cage compds.: prepn. and use as antiviral agents)

IT Duck
(hepatitis in; cage compds.: prepn. and use as antiviral agents)

IT Felis catus
(virus-induced arthritis in; cage compds.: prepn. and use as antiviral agents)

IT Canis familiaris
(virus-induced arthritis/encephalitis in; cage compds.: prepn. and use as antiviral agents)

IT Hepatitis
(B, cage compds.: prepn. and use as antiviral agents)

IT Hepatitis
(C, cage compds.: prepn. and use as antiviral agents)

IT Group VIII element compounds
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Group 9, complexes, clathrates; cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(Japanese encephalitis, cage compds.: prepn. and use as antiviral agents)

IT Neoplasm inhibitors
(adult, T-cell leukemia, cage compds.: prepn. and use as antiviral agents)

IT Inflammation inhibitors
(antiarthritics, for virus-induced canine arthritis/encephalitis and feline arthritis; cage compds.: prepn. and use as antiviral agents)

IT Cyclic compounds
Heterocyclic compounds
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cage, cage compds.: prepn. and use as antiviral agents)

IT Inclusion compounds
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(clathrates, cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(cytomegalo-, cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(flavi-, cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(hepadna, cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(herpes, cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(herpes simplex 2, herpes genitalis from, cage compds.: prepn. and use as antiviral agents)

IT Virus, animal
(herpes simplex, herpes simplex labialis from, cage compds.: prepn. and use as antiviral agents)

IT Mononucleosis
(infectious, cage compds.: prepn. and use as antiviral agents)

IT Hepatitis
(non-A, non-B, cage compds.: prepn. and use as antiviral agents)

IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(poly-, cage compds.: prepn. and use as antiviral agents)
IT **Virus, animal**
(**retro-**, cage compds.: prepn. and use as antiviral agents)
IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(tri-, cage compds.: prepn. and use as antiviral agents)
IT Virus, animal
(varicella-zoster, herpes zoster from, cage compds.: prepn. and use as antiviral agents)
IT Virus, animal
(varicella-zoster, varicella from, cage compds.: prepn. and use as antiviral agents)
IT 85663-94-1P
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cage compds.: prepn. and use as antiviral agents)
IT 85663-96-3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(cage compds.: prepn. and use as antiviral agents)
IT 173781-88-9P 173781-93-6P 173781-94-7P 173782-15-5P 173782-16-6P
173782-21-3P 173782-34-8P 173782-42-8P 173782-43-9P 173782-47-3P
173782-50-8P 173782-51-9P 173935-93-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cage compds.: prepn. and use as antiviral agents)
IT 7439-88-5D, Iridium, clathrates **7439-89-6D**, Iron, clathrates
7439-93-2D, Lithium, clathrates 7439-95-4D, Magnesium, clathrates
7439-96-5D, Manganese, clathrates 7439-97-6D, Mercury, clathrates
7440-02-0D, Nickel, clathrates 7440-06-4D, Platinum, clathrates
7440-18-8D, Ruthenium, clathrates 7440-22-4D, Silver, clathrates
7440-23-5D, Sodium, clathrates 7440-32-6D, Titanium, clathrates
7440-43-9D, Cadmium, clathrates 7440-47-3D, Chromium, clathrates
7440-48-4D, Cobalt, clathrates **7440-50-8D**, Copper, clathrates
7440-62-2D, Vanadium, clathrates **7440-66-6D**, **Zinc**, clathrates 7440-74-6D, Indium, clathrates 71935-78-9 85664-04-6
85664-05-7 85664-06-8 85664-07-9 85664-12-6 91002-83-4
91002-85-6 91002-89-0 107247-40-5 109636-90-0 114595-74-3
121858-89-7 129942-30-9 136230-86-9 158252-47-2 165600-27-1
165600-32-8 165600-33-9 173781-75-4 173781-76-5 173781-77-6
173781-78-7 173781-79-8 173781-80-1 173781-81-2 173781-82-3
173781-83-4 173781-84-5 173781-85-6 173781-86-7 173781-87-8
173781-89-0 173781-90-3 173781-91-4 173781-92-5 173781-95-8
173781-96-9 173781-97-0 173781-98-1 173781-99-2 173782-00-8
173782-01-9 173782-02-0 173782-03-1 173782-04-2 173782-05-3
173782-06-4 173782-07-5 173782-08-6 173782-09-7 173782-10-0
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173782-18-8 173782-19-9 173782-20-2 173782-22-4 173782-23-5
173782-24-6 173782-25-7 173782-26-8 173782-27-9 173782-28-0
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173782-35-9 173782-36-0 173782-37-1 173782-38-2 173782-39-3
173782-40-6 173782-41-7 173782-44-0 173782-45-1 173782-46-2
173782-48-4 173782-49-5 173782-52-0 173782-53-1 173782-54-2
173782-55-3 173782-56-4 173782-57-5 173782-59-7 173782-60-0
173782-61-1 173782-63-3 173935-87-0 173935-88-1 173935-89-2
173935-90-5 173935-91-6 173935-92-7 173935-94-9 173935-95-0
173935-96-1 173935-97-2 173935-98-3 173935-99-4 173936-00-0
173936-01-1 173936-02-2 173936-03-3 173936-04-4 173936-05-5
173936-06-6 173936-07-7 173936-08-8 173936-09-9 173936-10-2

173936-11-3 173936-12-4 173936-13-5 173936-14-6 173936-15-7
173936-16-8 174060-23-2 174171-98-3 174171-99-4 174172-00-0
174388-83-1
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cage compds.: prepn. and use as antiviral agents)

IT 50-00-0, Formaldehyde, reactions 123-72-8, n-Butanal 7084-11-9, 1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride 13408-73-6 30525-89-4, Paraformaldehyde 82796-46-1 174172-01-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(cage compds.: prepn. and use as antiviral agents)

IT **7439-89-6D**, Iron, clathrates **7440-50-8D**, Copper, clathrates **7440-66-6D**, **Zinc**, clathrates
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cage compds.: prepn. and use as antiviral agents)

RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

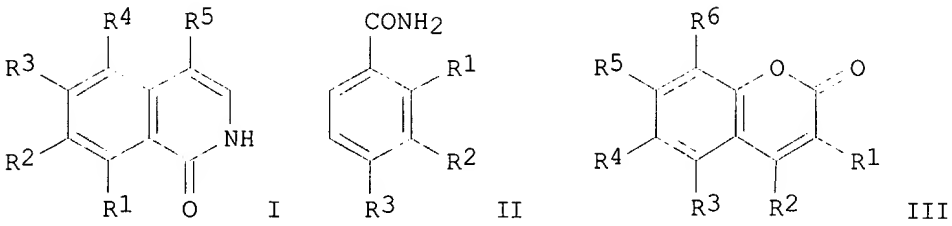
RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:87552 HCAPLUS
DN 124:260865
TI Adenosine diphosphoribose polymerase binding nitroso aromatic compounds useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents
IN Kun, Ernest; Mendeleyev, Jerome
PA Octamer, Inc., USA
SO U.S., 27 pp. Cont.-in-part of U.S. Ser. No. 893, 429, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K031-165
ICS C07C233-65
NCL 514619000
CC 27-17 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 25, 63
FAN.CNT 9

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	US 5482975	A	19960109		US 1993-21830	19930224	<--
PRAI	US 1991-780809	B2	19911022	<--			
	US 1992-893429	B2	19920604	<--			

OS MARPAT 124:260865
GI



AB The subject invention provides for novel compds. I-III wherein, for I: R1, R2, R3, R4, and R5 are selected from the group consisting of hydrogen and nitroso, and only one of R1, R2, R3, R4, and R5 is a nitroso group; for II: R1, R2, R3 are selected from the group consisting of hydrogen and nitroso, and only one of R1, R2, R3 is a nitroso group; for III: R1, R2, R3, R4, R5, R6 are selected from the group consisting of hydrogen and nitroso, and only one of R1, R2, R3, R4, R5, R6 is a nitroso group, for **inactivating** viruses. These compds. include 6-nitroso-1,2-benzopyrone, 3-nitrosobenzamide, 5-nitroso-1(2H)-isoquinolinone, 7-nitroso-1(2H)isoquinolinone, and 8-nitroso-1(2H)isoquinolinone. The invention also provides for compns. contg. one or more of the compds., and for methods of treating viral infections, cancer, infectious virus concn. with the subject compds. and compns. Thus, e.g., oxidn. of 6-amino-1,2-benzopyrone hydrochloride in presence of sodium tungstate/H2O2 afforded 6-nitroso-1,2-benzopyrone which exhibited inhibition of the polymerase activity of ADPRT with IC50 = 40 .mu.M and a 3-log decrease of the **HIV**-1 infectivity titer at 10 .mu.M.

ST nitroso arom adenosine diphosphoribose polymerase binding; antiretroviral nitroso arom; antitumor nitroso arom

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**HIV**-1 **zinc finger nucleocapsid**
; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Neoplasm inhibitors
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Nucleoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(disruption of nucleic acid binding by **zinc finger** of **HIV**-1 **nucleocapsid** protein; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Nitroso compounds
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(aryl, adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **Virus, animal**
(**human immunodeficiency 1**, adenosine

diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Conformation and Conformers
(**zinc-finger** motif, adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 130506-22-8P, 6-Nitroso-1,2-benzopyrone 144189-66-2P, 3-Nitrosobenzamide 149095-76-1P, 5-Nitroso-1(2H)-isoquinolinone 149095-77-2P, 7-Nitroso-1(2H)-isoquinolinone
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 142404-02-2, 5-Iodo-6-nitroso-1,2-benzopyrone
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 58319-92-9
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **156730-41-5P**
RL: BYP (Byproduct); PREP (Preparation)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

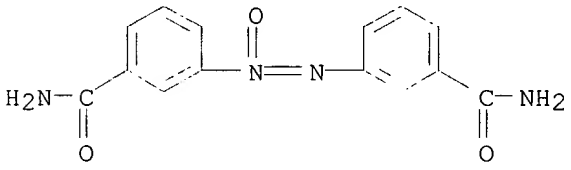
IT 491-30-5, Isocarbostyril 3544-24-9, 3-Aminobenzamide 63989-79-7, 6-Amino-1,2-benzopyrone hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 93117-08-9P, 5-Amino-1(2H)-isoquinolinone 174302-45-5P, 3-Nitrosobenzamide dimer 174302-46-6P, 7-Amino-1(2H)-isoquinolinone
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 14415-44-2, 6-Amino-1,2-benzopyrone 137881-27-7
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(biochem. precursor of nitroso compd.; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **7440-66-6, Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ejection from **zinc finger** of **HIV-1** **nucleocapsid** protein; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating**

agents, anti-retroviral agents and anti-tumor agents)
IT **156730-41-5P**
RL: BYP (Byproduct); PREP (Preparation)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)
RN 156730-41-5 HCAPLUS
CN Benzamide, 3,3'-azoxybis- (9CI) (CA INDEX NAME)



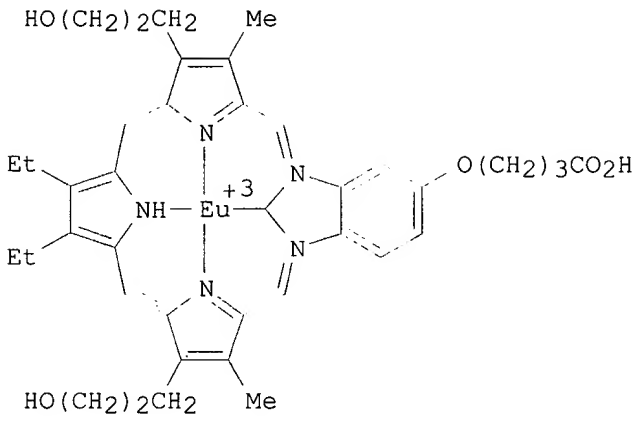
IT **7440-66-6, Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ejection from **zinc finger** of **HIV**-1 **nucleocapsid** protein; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)
RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:56236 HCAPLUS
DN 124:81470
TI Texaphyrin immobilization on solid supports and medical devices
IN Sessler, Jonathan L.; Iverson, Brent L.; Kral, Vladimir; Thomas, Richard E.; Smith, Daniel A.; Magda, Darren
PA Board of Reagents, the University of Texas System, USA; Pharmacyclics, Inc.
SO PCT Int. Appl., 128 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K047-48
ICS A61K031-395; A61L002-08; B01J031-22; C12Q001-68; A61K049-00; B01D015-08
CC 9-3 (Biochemical Methods)
Section cross-reference(s): 63, 78
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9529702	A1	19951109	WO 1995-US5421	19950428 <--
	W: JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 758250	A1	19970219	EP 1995-920377	19950428 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 09512557	T2	19971216	JP 1995-528480	19950428 <--
PRAI	US 1994-236218		19940428 <--		
	WO 1995-US5421		19950428 <--		

OS MARPAT 124:81470
GI



I

AB Novel matrix-supported texaphyrins are provided in which a polymeric or solid matrix is covalently modified by the addn. of .gtoreq.1 texaphyrin or texaphyrin deriv. Polymer-supported texaphyrins may be used as chromatog. supports, e.g., in the sepn. of neutral and anionic species, and in applications involving phosphate ester hydrolysis, other catalytic schemes, MRI, and photodynamic therapy. Thus, Eu-texaphyrincarboxylic acid I was treated with carbodiimide and 1-hydroxybenzotriazole and then coupled to 3-aminopropyl silica gel. A silica bead-supported lanthanide-texaphyrin complex was used to remove RNA contaminants from plasmid DNA by utilizing the susceptibility of RNA to hydrolysis by the lanthanide complex catalyst.

ST texaphyrin immobilization catalyst chromatog

IT Nucleic acid bases
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates with texaphyrins; texaphyrin immobilization on solid supports and medical devices)

IT Plasmid and Episome
(hydrolysis of; texaphyrin immobilization on solid supports and medical devices)

IT Amides, reactions
Esters, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of; texaphyrin immobilization on solid supports and medical devices)

IT Rare earth metals, analysis
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(texaphyrin complexes; texaphyrin immobilization on solid supports and medical devices)

IT Chemical warfare agents
Fungicides and Fungistats
Herbicides
Hydrogenation catalysts
Hydrolysis catalysts
Medical goods
Pesticides
Photolysis catalysts
Polymer-supported reagents
Polymerization catalysts
Virucides and Virustats

(texaphyrin immobilization on solid supports and medical devices)
IT Polymers, analysis
RL: ANT (Analyte); DEV (Device component use); PUR (Purification or recovery); RCT (Reactant); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)
IT Arsenates
Bromides, analysis
Carbohydrates and Sugars, analysis
Chlorides, analysis
Fluorides, analysis
Nitrates, analysis
Nucleotides, analysis
Phosphates, analysis
Pseudohalides
Sulfates, analysis
Sulfonates
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(texaphyrin immobilization on solid supports and medical devices)
IT Deoxyribonucleic acids
Ribonucleic acids
RL: ANT (Analyte); PUR (Purification or recovery); RCT (Reactant); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent)
(texaphyrin immobilization on solid supports and medical devices)
IT Ceramic materials and wares
Clays, uses
Glass, oxide
Latex
Polyamides, uses
Rubber, silicone, uses
Silica gel, uses
Siloxanes and Silicones, uses
Urethane polymers, uses
Zeolites, uses
RL: NUU (Other use, unclassified); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)
IT Coenzymes
RL: RCT (Reactant); RACT (Reactant or reagent)
(texaphyrin immobilization on solid supports and medical devices)
IT Phospholipids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(texaphyrin immobilization on solid supports and medical devices)
IT Imaging
(NMR, contrast agents, texaphyrin immobilization on solid supports and medical devices)
IT Joint, anatomical
(artificial, texaphyrin immobilization on solid supports and medical devices)
IT Electrophoresis and Ionophoresis
(capillary, texaphyrin immobilization on solid supports and medical devices)
IT Medical goods
(catheters, texaphyrin immobilization on solid supports and medical devices)
IT Phototherapy
(chemo-, texaphyrin immobilization on solid supports and medical devices)
IT Carbohydrates and Sugars, analysis
RL: ARU (Analytical role, unclassified); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(conjugates, with texaphyrin; texaphyrin immobilization on solid supports and medical devices)
IT Amino acids, biological studies
Oligosaccharides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates, with texaphyrin; texaphyrin immobilization on solid supports and medical devices)
IT Peptides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates, with texaphyrins; texaphyrin immobilization on solid supports and medical devices)
IT Magnetic substances
(dia-, texaphyrin complexes; texaphyrin immobilization on solid supports and medical devices)
IT Virus, animal
(enveloped, texaphyrin immobilization on solid supports and medical devices)
IT Carboxylic acids, analysis
Sulfonic acids, analysis
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(esters, texaphyrin immobilization on solid supports and medical devices)
IT **Virus, animal**
(**feline immunodeficiency**, texaphyrin immobilization on solid supports and medical devices)
IT Virus, animal
(herpes simplex, texaphyrin immobilization on solid supports and medical devices)
IT Chromatography, column and liquid
(high-performance, stationary phases, texaphyrin immobilization on solid supports and medical devices)
IT **Virus, animal**
(**human immunodeficiency**, texaphyrin immobilization on solid supports and medical devices)
IT Prosthetic materials and Prosthetics
(implants, texaphyrin immobilization on solid supports and medical devices)
IT Nucleotides, uses
RL: CAT (Catalyst use); USES (Uses)
(oligo-, deoxyribo-, aminoalkyl, conjugates with texaphyrin europium complexes, RNA site-specific hydrolysis by; texaphyrin immobilization on solid supports and medical devices)
IT Magnetic substances
(para-, texaphyrin complexes; texaphyrin immobilization on solid supports and medical devices)
IT **Virus, animal**
(**retro-**, texaphyrin immobilization on solid supports and medical devices)
IT Carboxylic acids, analysis
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(salts, texaphyrin immobilization on solid supports and medical devices)
IT **Virus, animal**
(**simian immunodeficiency**, texaphyrin immobilization on solid supports and medical devices)
IT Chromatography
(stationary phases, texaphyrin immobilization on solid supports and

medical devices)
IT Transition metal compounds
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(texaphyrin complexes, texaphyrin immobilization on solid supports and medical devices)
IT Photodynamic action
(therapeutic, texaphyrin immobilization on solid supports and medical devices)
IT Acylation catalysts
(trans-, texaphyrin immobilization on solid supports and medical devices)
IT Amino acids, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(D-, conjugates with texaphyrin; texaphyrin immobilization on solid supports and medical devices)
IT 2415-43-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of; texaphyrin immobilization on solid supports and medical devices)
IT 7782-44-7P, Oxygen, preparation
RL: PNU (Preparation, unclassified); PREP (Preparation)
(singlet; texaphyrin immobilization on solid supports and medical devices)
IT 1306-06-5, Hydroxylapatite
RL: NUU (Other use, unclassified); USES (Uses)
(sintered; texaphyrin immobilization on solid supports and medical devices)
IT 7664-93-9DP, Sulfuric acid, esters 7697-37-2DP, Nitric acid, esters 7723-14-0DP, Phosphorus, org. compds. 7778-39-4DP, Arsenic acid, esters 13598-36-2DP, Phosphonic acid, esters
RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)
(texaphyrin immobilization on solid supports and medical devices)
IT 7664-38-2DP, Phosphoric acid, esters
RL: ANT (Analyte); PUR (Purification or recovery); RCT (Reactant); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent)
(texaphyrin immobilization on solid supports and medical devices)
IT **7439-89-6DP**, Iron, texaphyrin complexes 7440-02-0DP, Nickel, texaphyrin complexes 7440-48-4DP, Cobalt, texaphyrin complexes **7440-50-8DP**, Copper, texaphyrin complexes 7440-54-2DP, Gadolinium, texaphyrin complexes 115652-49-8DP, derivs.
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)
IT 7429-91-6DP, Dysprosium, texaphyrin complexes 7439-91-0DP, Lanthanum, texaphyrin complexes 7439-94-3DP, Lutetium, texaphyrin complexes 7439-96-5DP, Manganese, texaphyrin complexes 7439-97-6DP, Mercury, texaphyrin complexes 7440-00-8DP, Neodymium, texaphyrin complexes 7440-10-0DP, Praseodymium, texaphyrin complexes 7440-19-9DP, Samarium, texaphyrin complexes 7440-20-2DP, Scandium, texaphyrin complexes 7440-27-9DP, Terbium, texaphyrin complexes 7440-30-4DP, Thulium, texaphyrin complexes 7440-43-9DP, Cadmium, texaphyrin complexes 7440-45-1DP, Cerium, texaphyrin complexes 7440-52-0DP, Erbium, texaphyrin complexes 7440-53-1DP, Europium, texaphyrin complexes 7440-60-0DP, Holmium, texaphyrin complexes 7440-64-4DP, Ytterbium, texaphyrin complexes 7440-65-5DP, Yttrium, texaphyrin complexes **7440-66-6DP**, **Zinc**, texaphyrin complexes 7440-70-2DP, Calcium, texaphyrin complexes 7440-74-6DP, Indium, texaphyrin complexes

RL: ARU (Analytical role, unclassified); CAT (Catalyst use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)

IT 115652-49-8D, multimers 134020-79-4D, Sapphyrin, multimers
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)

IT 158272-82-3
RL: CAT (Catalyst use); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)

IT 74-85-1D, Ethene, halo, polymers 79-10-7D, 2-Propenoic acid, esters, polymers 1344-28-1, Alumina, uses 1398-61-4, Chitin 7631-86-9, Silica, uses 9002-86-2, Poly(vinyl chloride) 9002-88-4 9003-05-8, Polyacrylamide 9003-07-0, Polypropylene 9003-53-6 9003-69-4, Poly(divinylbenzene) 9004-34-6, Cellulose, uses 9005-32-7, Alginic acid 9012-36-6, Sepharose 9012-76-4, Chitosan 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid) 61029-13-8, Montmorillonite (AlH(SiO3)2) 172757-84-5
RL: NUU (Other use, unclassified); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)

IT 56-65-5P, 5'-ATP, preparation 58-61-7P, Adenosine, preparation 58-64-0P, 5'-ADP, preparation 60-92-4P, 3',5'-Cyclic AMP 61-19-8P, 5'-AMP, preparation 65-85-0P, Benzoic acid, preparation 98-11-3P, Benzenesulfonic acid, preparation 701-64-4P, Phenyl phosphate 838-85-7P, Diphenyl phosphate
RL: PUR (Purification or recovery); PREP (Preparation)
(texaphyrin immobilization on solid supports and medical devices)

IT 172757-81-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(texaphyrin immobilization on solid supports and medical devices)

IT 164388-50-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(texaphyrin immobilization on solid supports and medical devices)

IT 172757-80-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(texaphyrin immobilization on solid supports and medical devices)

IT **7439-89-6DP**, Iron, texaphyrin complexes **7440-50-8DP**, Copper, texaphyrin complexes
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(texaphyrin immobilization on solid supports and medical devices)

RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

IT **7440-66-6DP, Zinc**, texaphyrin complexes
RL: ARU (Analytical role, unclassified); CAT (Catalyst use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

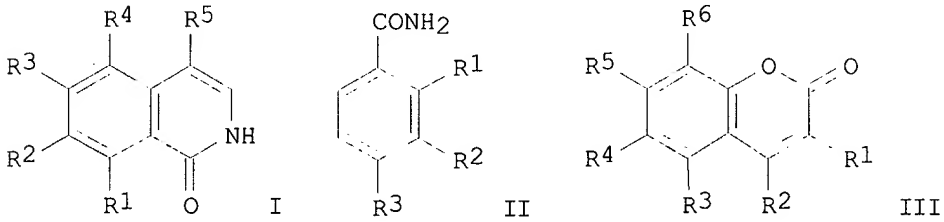
(texaphyrin immobilization on solid supports and medical devices)
RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:34901 HCAPLUS
DN 124:202044
TI Adenosine diphosphoribose polymerase binding nitroso aromatic compounds useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents
IN Kun, Ernest; Mendeleyev, Jerome
PA Octamer, Incorporated, USA
SO U.S., 27 pp. Cont.-in-part of U.S. Ser. No. 893,429, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07D217-22
ICS A61K031-47
NCL 546141000
CC 27-17 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 25, 63
FAN.CNT 9

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5473074	A	19951205	US 1992-968989	19921030 <--
PRAI US 1991-780809	A2	19911022 <--		
US 1992-893429	B2	19920604 <--		

OS MARPAT 124:202044
GI



AB The subject invention provides for novel anti-retroviral and anti-tumor compds. I-III wherein, for I: R1, R2, R3, R4, and R5 are selected from the group consisting of hydrogen and nitroso, and only one of R1, R2, R3, R4, and R5 is a nitroso group; for II: R1, R2, R3 are selected from the group consisting of hydrogen and nitroso, and only one of R1, R2, R3 is a nitroso group; for III: R1, R2, R3, R4, R5, R6 are selected from the group consisting of hydrogen and nitroso, and only one of R1, R2, R3, R4, R5, R6 is a nitroso group. These compds. include 6-nitroso-1,2-benzopyrone, 3-nitrosobenzamide, 5-nitroso-1(2H)-isoquinolinone, 7-nitroso-1(2H)-isoquinolinone, and 8-nitroso-1(2H)-isoquinolinone. The invention also provides for compns. contg. one or more of the compds., and for methods of treating viral infections, cancer, and infectious virus concn. with the subject compds. and compns. Thus, e.g., oxidn. of 6-amino-1,2-benzopyrone hydrochloride in presence of sodium tungstate/H2O2 afforded 6-nitroso-1,2-benzopyrone which exhibited inhibition of the polymerase activity of ADPRT with IC50 = 40 .mu.M and a 3-log decrease of the

HIV-1 infectivity titer at 10 .mu.M.

ST nitroso arom adenosine diphosphoribose polymerase binding; antiretroviral nitroso arom; antitumor nitroso arom

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**HIV**-1 **zinc finger nucleocapsid**
; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Neoplasm inhibitors
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Nucleoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(disruption of nucleic acid binding by **zinc finger** of **HIV**-1 **nucleocapsid** protein; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Nitroso compounds
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(aryl, adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **Virus, animal**
(**human immunodeficiency 1**, adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT Conformation and Conformers
(**zinc-finger** motif, adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 130506-22-8P, 6-Nitroso-1,2-benzopyrone 144189-66-2P, 3-Nitrosobenzamide 149095-76-1P, 5-Nitroso-1(2H)-isoquinolinone 149095-77-2P, 7-Nitroso-1(2H)-isoquinolinone
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 142404-02-2, 5-Iodo-6-nitroso-1,2-benzopyrone
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 58319-92-9
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **156730-41-5P**, 3,3'-Azoxybenzamide

RL: BYP (Byproduct); PREP (Preparation)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 491-30-5, Isocarbostyril 3544-24-9, 3-Aminobenzamide 63989-79-7, 6-Amino-1,2-benzopyrone hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

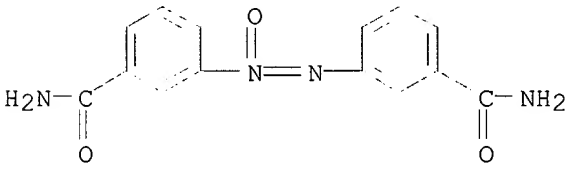
IT 93117-08-9P, 5-Amino-1(2H)-isoquinolinone 174302-45-5P, 3-Nitrosobenzamide dimer 174302-46-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT 14415-44-2, 6-Amino-1,2-benzopyrone 137881-27-7
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(biochem. precursor of nitroso compd.; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **7440-66-6, Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ejection from **zinc finger** of **HIV**-1 **nucleocapsid** protein; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

IT **156730-41-5P**, 3,3'-Azoxybenzamide
RL: BYP (Byproduct); PREP (Preparation)
(adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

RN 156730-41-5 HCAPLUS
CN Benzamide, 3,3'-azoxybis- (9CI) (CA INDEX NAME)



IT **7440-66-6, Zinc**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ejection from **zinc finger** of **HIV**-1 **nucleocapsid** protein; adenosine diphosphoribose polymerase binding nitroso arom. compds. useful as retroviral **inactivating** agents, anti-retroviral agents and anti-tumor agents)

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 9 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:13368 HCAPLUS
DN 124:175591
TI Preparation of threo-1,4-diamino-2,3-diols as intermediates for **HIV** protease inhibitors
IN Inoe, Kenji; Fukae, Masabumi; Takahashi, Satomi
PA Kanegafuchi Chemical Ind, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C07C215-18
ICS B01J031-38; C07C213-00; C07C215-28; C07C271-20
ICA C07B061-00
CC 25-7 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1, 21
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07258177	A2	19951009	JP 1994-49479	19940318 <--
PRAI JP 1994-49479		19940318 <--		

OS CASREACT 124:175591; MARPAT 124:175591
AB Threo-R2R3NCHR1CH(OH)CH(OH)CHR1NR2R3 (R1 = alkyl, aralkyl, aryl; R2, R3 = protecting group, H; R2 = R3 .noteq. H) are prepd. by reductive homocoupling of R2R3NCHR1CHO (R1-R3 = same as above) by (i) treatment with lower-valent Ti prepd. from TiCl4 complexes with THF, dioxane, or 1,2-dimethoxyethane (I) and **Zn** or **Zn**-Cu in CH2Cl2, CHCl3, or trichloroethane or (ii) treatment with lower-valent Ti prepd. from TiCl4 and **Zn** or **Zn**-Cu in dioxane or I. TiCl4 was treated with **Zn** powders in THF-CH2Cl2 mixt. at room temp. for 1 h and treated with (S)-N-(benzyloxycarbonyl)phenylalaninal at room temp. for 15 h to give 45% (2S,3R,4R,5S)-N,N'-bis(benzyloxycarbonyl)-2,5-diamino-1,6-diphenylhexane-3,4-diol, vs. 22%, when performed similarly, but without using CH2Cl2.
ST threo isomer aminoalc prepn; aminoalc prepn intermediate treatment **AIDS; human immunodeficiency virus** protease inhibitor; titanium catalyst reductive coupling aminoaldehyde; solvent chloromethane chloroethane redn chlorotitanium; dioxane methoxyethane solvent redn **zinc**
IT **Virucides and Virustats**
(prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)
IT Acquired immune deficiency syndrome
(treatment of; prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)
IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amino, prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)
IT **Virus, animal**
(**human immunodeficiency 1**, prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)
IT Coupling reaction catalysts
Dimerization catalysts
(reductive, lower-valent Ti; prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)
IT 67-66-3, Chloroform, uses 75-09-2, Methylene chloride, uses 110-71-4, 1,2-Dimethoxyethane 123-91-1, Dioxane, uses 25323-89-1,

Trichloroethane
RL: NUU (Other use, unclassified); USES (Uses)
(in prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)

IT 109-99-9D, complex with titanium tetrachloride 110-71-4D, 1,2-Dimethoxyethane, complex with titanium tetrachloride 123-91-1D, Dioxane, complex with titanium tetrachloride **7440-50-8**, Copper, reactions **7440-66-6**, **Zinc**, reactions 7550-45-0, Titanium tetrachloride, reactions 7550-45-0D, Titanium tetrachloride, complexes
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)

IT 144114-21-6, Retropepsin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)

IT 137649-69-5P 153223-10-0P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)

IT 59830-60-3 63219-70-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)

IT **7440-50-8**, Copper, reactions **7440-66-6**, **Zinc**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of threo-aminoalcs. as intermediates for **HIV** protease inhibitors by reductive homocoupling of .alpha.-aminoaldehydes)

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:655644 HCAPLUS
DN 121:255644
TI Indole derivatives as inhibitors of **HIV** reverse transcriptase
IN Williams, Theresa M.; Ciccarone, Terrence M.; Saari, Walfred S.; Wai, John S.; Greenlee, William J.; Balani, Suresh K.; Goldman, Mark E.; Hoffman, Jacob M., Jr.; Lumma, William C., Jr.; et al.
PA Merck and Co., Inc., USA; Theoharides, Sharon, A.
SO PCT Int. Appl., 144 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D209-30
ICS A61K031-40

CC 27-11 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 63

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9419321	A1	19940901	WO 1994-US1694	19940215 <--
	W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KR, KZ, LK, LV, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, UZ				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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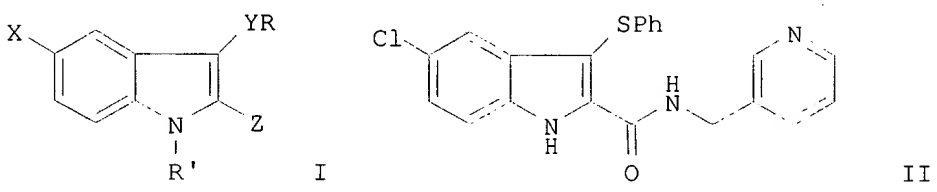
	AU 9462542	A1	19940914	AU 1994-62542	19940215 <--
	BR 9405737	A	19951205	BR 1994-5737	19940215 <--
	EP 686148	A1	19951213	EP 1994-909663	19940215 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	CN 1119856	A	19960403	CN 1994-191586	19940215 <--
	JP 08507067	T2	19960730	JP 1994-519119	19940215 <--
	HU 74614	A2	19970128	HU 1995-2468	19940215 <--
	PL 175788	B1	19990226	PL 1994-310410	19940215 <--
	US 5527819	A	19960618	US 1995-488957	19950607 <--
	FI 9503954	A	19950823	FI 1995-3954	19950823 <--
	NO 9503308	A	19951024	NO 1995-3308	19950823 <--

PRAI US 1993-21925 19930224 <--
US 1991-756013 19910906 <--
US 1992-832260 19920207 <--
US 1992-866765 19920409 <--
WO 1994-US1694 19940215 <--
US 1994-274101 19940711 <--

OS MARPAT 121:255644

GI



AB Novel indole compds. inhibit **HIV** reverse transcriptase (**HIV** RTR), and are useful in the prevention or treatment of infection by **HIV** and in the treatment of **AIDS**. The described compds. include I [X = H, Cl, F, Br, NO2, cyano, OH, alkoxy, (di)(alkyl)amino, alkylamido, alkylsulfonamido; Y = S, SO, SO2, O; R = (un)substituted alkyl, aryl, heterocyclyl, dialkylamino (except when Y = O); Z = (un)substituted CONH2, CSNH2, alkanoyl, alkoxycarbonyl, aminomethyl, cyano, etc.; R' = H, CHO, acyl, (un)substituted CONH2] and their salts and esters. Approx. 180 I are prepd., listed, and/or claimed. For example, 5-chloroindole-2-carboxylic acid was treated with excess NaH in DMF and then with PhSSPh to give its 3-(phenylthio) deriv., which was amidated with 3-(aminomethyl)pyridine using BOP reagent and Et3N in DMF to give title compd. II, a preferred compd. I inhibited **HIV** RTR in vitro with IC50 of 3-35 nM for the most preferred compds. I also inhibited viral spread of **HIV** in cell cultures, with 95% inhibitory concns. (CIC95) of 3-400 nM for preferred compds.

ST indole prepn inhibitor **HIV** reverse transcriptase; antiviral indole prepn; **AIDS** treatment indole prepn

IT **Human immunodeficiency virus**
(infection, treatment; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT **Antiviral agents**

(prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT **AIDS** (disease)
(treatment; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT **AIDS** (disease)
(-related complex, treatment; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT 79-37-8DP, Ethanedioyl dichloride, reaction products with indolecarboxylic acid derivs. 14204-24-1P 24621-70-3P, 1H-Indole-2-methanol 72716-86-0P 118427-38-6P 124312-73-8P 143232-22-8P 143232-23-9P 143232-24-0P 143232-25-1P 148900-64-5P 148900-65-6P 148900-66-7P 148900-68-9P 148900-69-0P 158561-62-7P 158561-63-8DP, dimeric acid chloride deriv. 158561-63-8P 158561-64-9P 158561-65-0P 158561-66-1P 158561-80-9P 158561-81-0P 158561-82-1P 158561-83-2P 158561-84-3P 158561-85-4P 158561-86-5P 158561-87-6P 158561-89-8DP, dimeric acid chloride deriv.
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT 26868-66-6P 116757-24-5P 118427-37-5P 143246-73-5P 148472-83-7P 148473-16-9P 148473-17-0P 148473-18-1P 148473-19-2P 148473-20-5P 148473-23-8P 148473-24-9P 148885-71-6P 148885-73-8P 148885-74-9P 148899-62-1P 148899-63-2P 148899-64-3P 148899-65-4P 148899-66-5P 148899-67-6P 148899-68-7P 148899-69-8P 148899-70-1P 148899-71-2P 148899-72-3P 148899-73-4P 148899-76-7P 148899-77-8P 148899-78-9P 148899-79-0P 148899-80-3P 148899-81-4P 148899-82-5P 148899-83-6P 148899-84-7P 148899-85-8P 148899-86-9P 148899-87-0P 148899-88-1P 148899-89-2P 148899-90-5P 148899-91-6P 148899-92-7P 148899-93-8P 148899-94-9P 148899-95-0P 148899-96-1P 148899-97-2P 148899-98-3P 148899-99-4P 148900-00-9P 148900-01-0P 148900-02-1P 148900-03-2P 148900-04-3P 148900-05-4P 148900-06-5P 148900-07-6P 148900-08-7P 148900-09-8P 148900-10-1P 148900-11-2P 148900-12-3P 148900-13-4P 148900-15-6P 148900-16-7P 148900-17-8P 148900-18-9P 148900-19-0P 148900-21-4P 148900-22-5P 148900-23-6P 148900-24-7P 148900-25-8P 148900-26-9P 148900-27-0P 148900-28-1P 148900-29-2P 148900-30-5P 148900-31-6P 148900-33-8P 148900-34-9P 148900-35-0P 148900-36-1P 148900-37-2P 148900-38-3P 148900-39-4P 148900-40-7P 148900-41-8P 148900-42-9P 148900-43-0P 148900-44-1P 148900-45-2P 148900-46-3P 148900-47-4P 148900-48-5P 148900-49-6P 148900-50-9P 148900-51-0P 148900-52-1P 148900-53-2P 148900-54-3P 148900-55-4P 148900-56-5P 148900-57-6P 148900-58-7P 148900-59-8P 148900-60-1P 148900-61-2P 148900-62-3P 158560-96-4P 158560-97-5P 158560-98-6P 158560-99-7P 158561-00-3P 158561-01-4P 158561-02-5P 158561-03-6P 158561-04-7P 158561-05-8P 158561-06-9P 158561-07-0P 158561-08-1P 158561-09-2P 158561-10-5P 158561-11-6P 158561-12-7P 158561-13-8P 158561-14-9P 158561-15-0P 158561-16-1P 158561-17-2P 158561-18-3P 158561-19-4P 158561-20-7P 158561-21-8P 158561-22-9P 158561-23-0P 158561-24-1P 158561-25-2P 158561-26-3P 158561-27-4P 158561-28-5P 158561-29-6P 158561-30-9P 158561-31-0P 158561-32-1P 158561-33-2P 158561-34-3P 158561-35-4P 158561-36-5P 158561-37-6P 158561-38-7P 158561-39-8P 158561-40-1P 158561-41-2P 158561-45-6P 158561-46-7P 158561-47-8P 158561-48-9P 158561-49-0P 158561-59-2P 158561-60-5P 158561-61-6P 158561-69-4P 158561-70-7P 158561-71-8P 158561-72-9P 158561-73-0P 158561-74-1P 158561-75-2P 158561-76-3P 158561-77-4P 158561-78-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT 9068-38-6
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
(prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT 56366-45-1 56366-45-1D, reactant
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT 118427-37-5DP, imtermediate 148899-66-5DP, intermediate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT 51-45-6, 1H-Imidazole-4-ethanamine 62-53-3, Benzenamine 75-04-7, Ethanamine 98-88-4, Benzoyl chloride 100-46-9, Benzenemethanamine 100-59-4 100-61-8 103-71-9 108-98-5, Benzenethiol 109-85-3 124-63-0, Methanesulfonyl chloride 128-09-6 141-43-5 462-08-8, 3-Pyridinamine 488-93-7, 3-Furancarboxylic acid 530-62-1 617-89-0, 2-Furanmethanamine 644-42-8 765-30-0, Cyclopropanamine **882-33-7** 1142-19-4 **2127-03-9** 2393-23-9 2516-47-4, Cyclopropanemethanamine **2645-22-9** 2799-16-8 3731-52-0, 3-Pyridinemethanamine 3731-53-1, 4-Pyridinemethanamine 3770-50-1 3886-69-9 4597-87-9 4792-67-0 5036-48-6, 1H-Imidazole-1-propanamine 5071-96-5 6320-03-2 6638-79-5 6850-57-3 7664-41-7, Ammonia 10517-21-2 13258-63-4, 4-Pyridineethanamine 19742-92-8 20062-51-5 20362-54-3 20989-17-7 22600-77-7 24367-50-8 26177-43-5 33252-30-1 34231-22-6 61747-29-3 69385-30-4 73604-31-6 116757-25-6 137897-99-5 144900-57-2 158561-67-2 158561-88-7 158561-89-8 158561-90-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

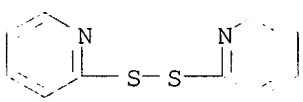
IT 158561-68-3DP, dimeric acid chloride deriv.
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(reactant; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

IT **882-33-7 2127-03-9 2645-22-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; prepn. of indole derivs. as inhibitors of **HIV** reverse transcriptase)

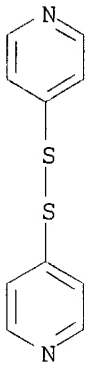
RN 882-33-7 HCAPLUS
CN Disulfide, diphenyl (9CI) (CA INDEX NAME)

Ph—S—S—Ph

RN 2127-03-9 HCAPLUS
CN Pyridine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



RN 2645-22-9 HCAPLUS
CN Pyridine, 4,4'-dithiobis- (9CI) (CA INDEX NAME)



L78 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN **1994:555749** HCAPLUS
DN **121:155749**
TI **Human immunodeficiency virus** decoy
IN Kossovsky, Nir; Gelman, Andrew E.; Sponsler, Edward E.
PA Regents of the University of California, USA
SO U.S., 10 pp. Cont.-in-part of U.S. 5,178,882.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61K009-14
ICS A61K039-12
NCL 424494000
CC 15-2 (Immunochemistry)
FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	US 5334394	A	19940802	US 1993-199	19930104	<--
	US 5219577	A	19930615	US 1990-542255	19900622	<--
	US 5178882	A	19930112	US 1991-690601	19910424	<--
	CA 2045204	AA	19911223	CA 1991-2045204	19910621	<--
	CA 2045204	C	19990105			
	AU 9179210	A1	19920102	AU 1991-79210	19910621	<--
	AU 638841	B2	19930708			
	JP 05255111	A2	19931005	JP 1991-178805	19910624	<--
	JP 2932406	B2	19990809			
	ES 2055539	T3	19940816	ES 1991-305706	19910624	<--
	US 5306508	A	19940426	US 1993-29773	19930311	<--
	US 5441739	A	19950815	US 1993-29896	19930311	<--
	US 5460830	A	19951024	US 1993-145870	19931101	<--
	US 5462751	A	19951031	US 1993-146536	19931101	<--
	US 5460831	A	19951024	US 1993-147751	19931104	<--
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BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

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	CA 2152379	AA	19940721	CA 1993-2152379	19931112 <--
	AU 9469554	A1	19940815	AU 1994-69554	19931112 <--
	AU 9456009	A1	19940815	AU 1994-56009	19931112 <--
	AU 9457266	A1	19940815	AU 1994-57266	19931112 <--
	EP 676955	A1	19951018	EP 1994-903257	19931112 <--
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	EP 689421	A1	19960103	EP 1994-901411	19931112 <--
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	JP 09504265	T2	19970428	JP 1993-515972	19931112 <--
	JP 2875629	B2	19990331		
	CA 2153147	AA	19990316	CA 1993-2153147	19931112 <--
	US 5462750	A	19951031	US 1994-225100	19940408 <--
	US 5464634	A	19951107	US 1994-232756	19940425 <--
	US 5639505	A	19970617	US 1995-448042	19950523 <--
PRAI	US 1990-542255		19900622 <--		
	US 1991-690601		19910424 <--		
	US 1993-199		19930104 <--		
	US 1993-986		19930106 <--		
	US 1993-29773		19930311 <--		
	US 1993-29896		19930311 <--		
	WO 1993-US10900		19931112 <--		
	WO 1993-US10901		19931112 <--		
	WO 1993-US10963		19931112 <--		

AB An antigenically active compn. is made up of core particles (e.g. of Sn, Ru, or Si oxide) having diams. <1000 nm which are coated with a layer (e.g. of carbohydrate) designed to allow attachment of biol. active proteins, peptides, or pharmacol. agents to the microparticles. When **HIV** protein was attached to cellobiose-coated diamond nanocryst. core particles, the result was a virus decoy which accurately mimicked native **HIV** in size, structure, and surface character while being entirely devoid of virulent activity due to the microparticle core. The **HIV** decoy is useful as a vaccine for treating mammals to elicit an immune response.

ST virus antigen oxide particle vaccine

IT Transferrins
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(adsorption of, on cellobiose-coated tin oxide particles)

IT Particles
(carbohydrate-coated, viral antigen bound to, as vaccine)

IT Vaccines
(for **HIV**, antigen bound to carbohydrate-coated particles as)

IT Adsorption
(of antigens, on carbohydrate-coated particles)

IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(particles coated with, viral antigen bound to, as vaccine)

IT Ceramic materials and wares
Metals, biological studies
Polymers, biological studies
RL: BIOL (Biological study)
(particles, carbohydrate-coated, viral antigen bound to, as vaccine)

IT Virus, animal
(Epstein-Barr, adsorption of, on cellobiose-coated tin oxide particles, for vaccine)

IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(gp120, of **HIV**, bound to carbohydrate-coated particles, as vaccine)

IT Glycoproteins, specific or class

RL: BIOL (Biological study)
(gp160, of **HIV**, bound to carbohydrate-coated particles, as vaccine)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(gp41, of **HIV**, bound to carbohydrate-coated particles, as vaccine)
IT **Virus, animal**
(**human immunodeficiency**, vaccine for, antigen bound to carbohydrate-coated particles as)
IT 69-79-4, Maltose 99-20-7, Trehalose 499-40-1, Isomaltose 528-50-7, Cellobiose 1109-28-0, Maltotriose 9004-70-0, Nitrocellulose 13133-07-8, Nystose
RL: BIOL (Biological study)
(particles coated with, viral antigen bound to, as vaccine)
IT 1332-29-2, Tin oxide 1344-28-1, Aluminum oxide, biological studies **7439-89-6**, Iron, biological studies 7440-02-0, Nickel, biological studies 7440-06-4, Platinum, biological studies 7440-22-4, Silver, biological studies 7440-44-0, Carbon, biological studies 7440-47-3, Chromium, biological studies 7440-57-5, Gold, biological studies **7440-66-6, Zinc**, biological studies 7631-86-9, Silicon dioxide, biological studies 7782-40-3, Diamond, biological studies 7782-49-2, Selenium, biological studies 11113-84-1, Ruthenium oxide
RL: BIOL (Biological study)
(particles, carbohydrate-coated, viral antigen bound to, as vaccine)
IT **7439-89-6**, Iron, biological studies **7440-66-6, Zinc**, biological studies
RL: BIOL (Biological study)
(particles, carbohydrate-coated, viral antigen bound to, as vaccine)
RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:525213 HCAPLUS
DN 121:125213
TI Synergism of metal ions and polyanions in prevention of **HIV** infections
IN Kuemel, Gunther
PA Germany
SO Ger., 12 pp.
CODEN: GWXXAW
DT Patent
LA German
IC ICM A61K033-24
ICS A61K031-725; A61K033-30; A61K033-34; A61K033-38
CC 1-5 (Pharmacology)
Section cross-reference(s): 10
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI DE 4302053 C1 19940630 DE 1993-4302053 19930126 <--
PRAI DE 1993-4302053 19930126 <--
AB Pharmaceutical compns. for prophylaxis of **HIV** infections contain Zr, Rh, Pd, Au, **Zn**, Cu, and/or Ag ions or compds. which release these ions in synergistic combination with a polyanion [e.g. dextran sulfate, heparin (derivs.), acrylate polymers, poly(galacturonic acid) derivs.] which prevents the adsorption of free **HIV** onto host cells. The metal ions bind irreversibly to the viral surface proteins and **inactivate** the virus. Thus, replication of **HIV-1** in MOLT-4 cells was almost completely inhibited by initial **inactivation** of the virus with 200 .mu.M Ag+ for 20 min, followed by exposure of cells to the virus in the presence of Cetomacrogol (adsorption inhibitor) for 3 days.
ST **HIV** inhibitor metal polyanion synergism
IT Lymphocyte
(**HIV** adsorption to, metal ions and polyanions inhibition of)
IT Cations
(**HIV inactivation** with)
IT **Virucides and Virustats**
(metal ions, for **HIV**, polyanions synergism with)
IT Adsorption
(of **HIV**, on lymphocyte, metal ions and polyanions inhibition of)
IT Alcohols, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(C16-18, ethoxylated, **HIV** infection prevention with metal ions and polyanions and)
IT Polyelectrolytes
(anionic, **HIV** infection prevention with metal ions and)
IT **Virus, animal**
(**human immunodeficiency**, infection with, prevention of, with metal and polyanion)
IT **Virus, animal**
(**human immunodeficiency 1**, infection with, prevention of, with metal and polyanion)
IT Detergents
(nonionic, **HIV** infection prevention with metal ions and polyanions and)
IT 7440-05-3, Palladium, biological studies 7440-16-6, Rhodium, biological studies 7440-22-4, Silver, biological studies **7440-50-8**, Copper, biological studies 7440-57-5, Gold, biological studies **7440-66-6**, **Zinc**, biological studies 7440-67-7, Zirconium, biological studies 7733-02-0, **Zinc** sulfate 7758-98-7, Copper sulfate, biological studies 7761-88-8, Silver nitrate, biological studies
RL: BIOL (Biological study)
(**HIV inactivation** with, synergism with polyanions in relation to)
IT 79-10-7D, 2-Propenoic acid, polymers 9005-49-6, Heparin, biological studies 9005-49-6D, Heparin, derivs. 9042-14-2, Dextran sulfate 25249-06-3D, Poly(galacturonic acid), derivs.
RL: BIOL (Biological study)
(**HIV** infection prevention with metal ions and)
IT **7440-50-8**, Copper, biological studies **7440-66-6**, **Zinc**, biological studies
RL: BIOL (Biological study)
(**HIV inactivation** with, synergism with polyanions in relation to)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

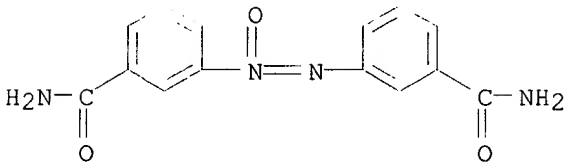
L78 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:499775 HCAPLUS
DN 121:99775
TI Adenosine diphosphoribose polymerase-binding nitroso aromatic compounds useful as anti-retroviral agents and anti-tumor agents
IN Kun, Ernest; Mendeleyev, Jerome; Rice, William C.
PA Octamer, Inc., USA; Emory University
SO PCT Int. Appl., 106 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-37
ICS A61K031-165; A61K031-47
CC 1-5 (Pharmacology)
Section cross-reference(s): 27
FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9409776	A1	19940511	WO 1993-US9457	19931004 <--
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5516941	A	19960514	US 1992-965541	19921102 <--
	AU 9352986	A1	19940524	AU 1993-52986	19931004 <--
	EP 666742	A1	19950816	EP 1993-923226	19931004 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 10504517	T2	19980506	JP 1993-511074	19931004 <--
PRAI	US 1992-965541	A	19921102 <--		
	US 1993-87566	A	19930702 <--		
	US 1991-780809	A2	19911022 <--		
	US 1992-893429	B2	19920604 <--		
	WO 1993-US9457	W	19931004 <--		

AB Benzopyrone, benzamide, and isoquinolinone nitroso derivs. are prepd. which **inactivate** viruses having a **Zn finger nucleocapsid** protein and are useful for treating viral infections and cancer. Thus, 1(2H)-isoquinolinone was nitrated to a mixt. of the 5- and 7-nitro isomers; the mixt. was reduced to the amino derivs. with KBH4 and Pd/C and oxidized to the nitroso derivs. with 3-chloroperoxybenzoic acid, and the isomers were sepd. by TLC. The isomer mixt. almost completely inhibited thymidine-3H uptake by human leukemia cells at 10 .mu.M, and inhibited the polymerase activity of ADP-ribosyltransferase with an IC50 of 13 .mu.M. 3-Nitrosobenzamide (3 or 6 mM) caused loss of 50-83% of the viral **Zn** from **HIV**-1 with complete loss of infectivity, and caused dissocn. of the complex of **HIV**-1 nucleic acid with the **Zn finger** of viral protein F1.
ST retrovirus inhibition nitroso arom compd; neoplasm inhibition nitroso arom compd; ADP ribose polymerase inhibition nitroso compd; virucide benzamide benzopyran isoquinolinone nitroso
IT Neoplasm inhibitors
Virucides and Virustats
(nitroso arom. compds.)
IT Aromatic compounds

RL: BIOL (Biological study)
(nitroso, neoplasm and retrovirus inhibition by)
IT Blood
(retrovirus **inactivation** in, by nitroso arom. compds.)
IT Proteins, specific or class
RL: BIOL (Biological study)
(F1, of **HIV**-1, dissocn. of **zinc finger** of, from **HIV**-1 RNA, nitroso arom. compds. effect on)
IT Nitroso compounds
RL: BIOL (Biological study)
(aryl, neoplasm and retrovirus inhibition by)
IT **Virus, animal**
(**human immunodeficiency**, infection with, treatment of, with nitroso org. compds.)
IT **Virus, animal**
(**human immunodeficiency 1**, infection with, treatment of, with nitroso org. compds.)
IT Virion structure
(**nucleocapsid, zinc finger**-contg. protein of, **inactivation** of, by nitroso arom. compds.)
IT **Virus, animal**
(**retro**-, **inactivation** of, by nitroso arom. compds.)
IT **Virus, animal**
(**simian immunodeficiency, inactivation** of, by nitroso arom. compds.)
IT Conformation and Conformers
(**zinc-finger** motif, of protein F1, of **HIV**-1, nitroso arom. compds. effect on, RNA binding in relation to)
IT 14415-44-2, 6-Amino-1,2-benzopyrone 137881-27-7, 5-Iodo-6-amino-1,2-benzopyrone 142404-02-2
RL: BIOL (Biological study)
(ADP-ribosyltransferase inhibition by)
IT 2725-81-7
RL: PRP (Properties)
(cytotoxicity of, to granulocyte-macrophage stem cells of human)
IT 9055-67-8
RL: PROC (Process)
(**inactivation** of, by nitroso arom. compds.)
IT 156730-40-4 156730-42-6
RL: BIOL (Biological study)
(neoplasm and retrovirus inhibition by)
IT 491-30-5, 1(2H)-Isoquinolinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(nitration of)
IT 3544-24-9, 3-Aminobenzamide
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of, with chloroperoxybenzoate)
IT 63989-79-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of, with peroxide)
IT **156730-41-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 130506-22-8P, 6-Nitroso-1,2-benzopyrone 144189-66-2P, 3-Nitrosobenzamide 149095-76-1P 149095-77-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of and neoplasm and retrovirus inhibition by)
IT **7440-66-6, Zinc**, biological studies
RL: BIOL (Biological study)
(release of, by **HIV**-1, nitroso arom. compds. effect on)
IT **156730-41-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

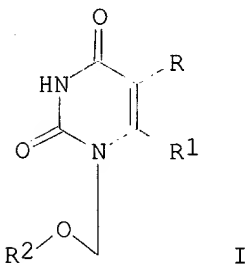
RN 156730-41-5 HCAPLUS
CN Benzamide, 3,3'-azoxybis- (9CI) (CA INDEX NAME)



IT **7440-66-6, Zinc**, biological studies
RL: BIOL (Biological study)
(release of, by **HIV**-1, nitroso arom. compds. effect on)
RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:457858 HCAPLUS
DN 121:57858
TI Synthesis and anti-**HIV**-1 activities of 6-arylthio and 6-arylselenoacyclonucleosides
AU Pan, Bai Chuan; Chen, Zhi Hao; Piras, Giovanna; Dutschman, Ginger E.; Rowe, Elizabeth C.; Cheng, Yung Chi; Chu, Shih Hsi
CS Div. Biol. Med., Brown Univ., Providence, RI, 02912, USA
SO Journal of Heterocyclic Chemistry (**1994**), 31(1), 177-85
CODEN: JHTCAD; ISSN: 0022-152X
DT Journal
LA English
CC 33-9 (Carbohydrates)
Section cross-reference(s): 1
GI



I

AB 6-Arylthio and 6-arylselenoacyclonucleosides were synthesized and tested for the ability to inhibit replication of **HIV**-1. Lithiation of acyclonucleosides with LDA followed by reaction with the electrophiles Ph disulfide, di-Ph diselenide, **2,2'-dipyridyl disulfide** or 2,2'-dipyridyl diselenide afforded acyclonucleosides I [R = H, Me, Et; R1 = SePh, 2-pyridylthio, 2-pyridylseleno; R2 = CH2Ph, cyclohexylmethyl, CHPhOH]. I [R2 = CHPhOH] were obtained by deprotection of I [R2 = CHPhOSiMe2CMe3]. Dehydrated products I [R2 = CPh:CH2] were

also formed during the reactions. I [R = Et, R1 = 2-pyridylthio, 2-pyridylseleno, R2 = CH2Ph] were more active against **HIV**-1 in both MT-2 and CEM-IW cell lines than AZT, DDC, DDI or D4T. The EC50 of I [R = Et, R1 = 2-pyridylthio, R2 = CH2Ph] against **HIV**-1 in CEM-IV cell was in the nanomolar range with a therapeutic index of 1100.

ST acyclonucleoside arylthio arylseleno; arylthioacyclonucleoside prepn virucide; arylselenoacyclonucleoside prepn virucide; pyridylselenoacyclonucleoside prepn virucide; pyridylthioacyclonucleoside prepn virucide; **HIV** inhibitor acyclonucleoside

IT **Virucides and Virustats**
(arylthio- and arylselenoacyclonucleosides)

IT **Virus, animal**
(**human immunodeficiency 1**, inhibitors, arylthio- and arylselenoacyclonucleosides)

IT 155831-58-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(9repn. and reaction of, in prepn. of arylthio- and arylselenoacyclonucleosides)

IT 7288-28-0P 10457-14-4P 31167-05-2P 133684-90-9P 155831-56-4P 155831-57-5P 155831-59-7P 155831-60-0P 155831-61-1P 155831-62-2P 155831-63-3P 155831-64-4P 155831-65-5P 155831-66-6P 155831-68-8P 155831-69-9P 155831-70-2P 156192-65-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, in prepn. of arylthio- and arylselenoacyclonucleosides)

IT 153562-59-5P 153562-60-8P 155831-51-9P 155831-52-0P 155831-53-1P 155831-55-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and virucidal activity of)

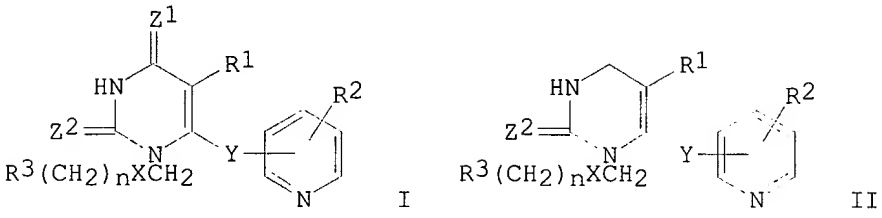
IT 155831-67-7P 155831-71-3P 155831-72-4P 155831-73-5P 155831-74-6P 155831-75-7P 155831-76-8P 155831-77-9P 155831-78-0P 155831-79-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 66-22-8, Uracil, reactions 10335-95-2 80140-15-4 80140-17-6 153562-61-9 155831-54-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of arylthio- and arylselenoacyclonucleosides)

L78 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:217722 HCAPLUS
DN 120:217722
TI Preparation of 6-pyridyl substituted pyrimidine derivatives and their use as antiviral agents
IN Chu, Shih Hsi; Cheng, Yung Chi; Pan, Bai Chuan
PA Brown University Research Foundation, USA
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D401-12
ICS A61K031-505
CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 1
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9323390	A1	19931125	WO 1993-US4134	19930503 <--
W: AU, CA, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5278167	A	19940111	US 1992-882584	19920513 <--

AU 9342289 A1 19931213 AU 1993-42289 19930503 <--
PRAI US 1992-882584 19920513 <--
WO 1993-US4134 19930503 <--
OS MARPAT 120:217722
GI



I II

AB Title compds. I, II (R1 = H, halo, alkyl, alkenyl, alkynyl, F3C, PhS, pyridylthio; R2 = H, halo, alkyl, H2N, (mono-, disubstituted) amino, azidoalkyl, aminoalkyl (substituted) aminoalkyl; R3 = H, halo, alkyl, (substituted) aryl, azidoalkyl, (substituted) aminoalkyl, F3C, pyridyl, quinolyl; X = S, O; Y = S, Se; n = 0-5; Z1, Z2 = O, S, Se) are prepd. 2,4-Bis-O-(trimethylsilyl)-5-ethyluracil (prepn. given) was converted to 5-ethyl-1-(benzyloxymethyl)uracil which was treated with dipyridyl disulfide to give I (R1 = Et, R2 = H, R3 = Ph, X = O, Y = S .mu. = 1, Z1 = Z2 = o) (III). In test against **HIV** the EC50, TI50 (therapeutic index) IC50 (toxic concn.) were 9.00 .times. 10-10, >1.10 .times. 10+3 and >9.8 .times. 10-7M, resp. III increased the efficacy of known 5-Fura against human cancer cell lines.

ST pyrimidinedione pyridyl prepn **HIV** inhibitor; uracil pyridyl prepn **HIV** inhibitor; neoplasm inhibitor enhancement pyridyluracial

IT **Virucides and Virustats**
(**HIV**, pyridylthio- or selenyluracils)

IT Neoplasm inhibitors
(enhancement of, pyridylthio- or selenyluracils for)

IT **Virus, animal**
(**human immunodeficiency 1**, infection of, treatment of, pyridylthio- and selenyluracils for)

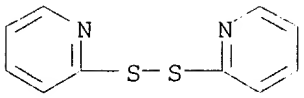
IT 2044-26-0P, 2(1H)-Pyridineselone 31167-05-2P 59957-75-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, in prepn. of antiviral agents)

IT 153562-59-5P 153562-60-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of, as antiviral agent)

IT 100-51-6, Benzyl alcohol, reactions 109-04-6, 2-Bromopyridine **2127-03-9** 30525-89-4, Paraformaldehyde 153562-61-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of antiviral agents)

IT **2127-03-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of antiviral agents)

RN 2127-03-9 HCAPLUS
CN Pyridine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



L78 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:30786 HCAPLUS
DN 120:30786
TI Linked heterocyclic polyamines with activity against **HIV**
IN Bridger, Gary James; Padmanabhan, Sreenivasan; Skerlj, Renato Tony; Thornton, David Michael
PA Johnson Matthey P.L.C., UK
SO PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D257-02
ICS C07D255-02; C07D259-00; C07D401-14; C07D409-14
CC 28-23 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 1
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9312096	A1	19930624	WO 1992-GB2334	19921216 <--
	W: AU, CA, CS, FI, HU, JP, KR, NO, NZ, PL, RU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	IL 103984	A1	19981030	IL 1992-103984	19921204 <--
	ZA 9209632	A	19930618	ZA 1992-9632	19921211 <--
	AU 9331655	A1	19930719	AU 1993-31655	19921216 <--
	AU 661086	B2	19950713		
	EP 619813	A1	19941019	EP 1993-900285	19921216 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 07501816	T2	19950223	JP 1992-510745	19921216 <--
	HU 67544	A2	19950428	HU 1994-1786	19921216 <--
	PL 173643	B1	19980430	PL 1992-304125	19921216 <--
	CZ 286928	B6	20000816	CZ 1994-1188	19921216 <--
	EP 1223166	A1	20020717	EP 2002-1112	19921216 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	FI 9402849	A	19940615	FI 1994-2849	19940615 <--
	NO 9402254	A	19940615	NO 1994-2254	19940615 <--
	US 5583131	A	19961210	US 1994-244863	19940818 <--
PRAI	GB 1991-26677	A	19911216 <--		
	CS 1994-1188	A	19921216 <--		
	EP 1993-900285	A3	19921216 <--		
	WO 1992-GB2334	A	19921216 <--		

OS MARPAT 120:30786
AB The title compds. ZRAR1Y [A = arom. or heteroarom. moiety; R, R1 = (un)substituted alk. chain or heteroatom-contg. chain; Y, Z = cyclic polyamine moieties having 9-32 ring members and 3-8 N atoms in the ring spaced by .gtoreq.2 C atoms from each other] or their acid addn. salts or metal complexes are prepd. and demonstrated viricidal activity against **HIV**-1 and **HIV**-2. Thus, 1,1'-[1,4-phenylenebis(methylene)]bis-1,4,8,11-tetraazacyclotetradecane was prepd. and demonstrated 50% inhibitory concn. against **HIV**-1 of 0.006 .mu.g/mL and 50% inhibitory concn. against **HIV**-2 of <0.01 .mu.g/mL in an assay employing infected MT-4 cells.
ST **AIDS** treatment prepn heterocyclic polyamine; **HIV** virucide prepn heterocyclic polyamine; tetraazacyclotetradecane prepn **HIV** viricidal agent; virustat prepn tetraazacyclotetradecane
IT **Virucides and Virustats**

(heterocyclic polyamines)
IT **Virus, animal**
(**human immunodeficiency 1**, inhibition of, heterocyclic polyamines for)
IT **Virus, animal**
(**human immunodeficiency 2**, inhibition of, heterocyclic polyamines for)
IT 151191-32-1 151191-33-2 151191-34-3 151191-35-4 151191-36-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(**HIV** viricidal activity of)
IT **7440-50-8DP**, Copper, 1,4-phenylenebismethylene bis tetraazacyclotetradecane complexes **7440-66-6DP, Zinc**, 1,4-phenylenebismethylene bis tetraazacyclotetradecane complexes 110078-44-9P 110078-46-1DP, copper and **zinc** complexes 133587-10-7P 133587-11-8P 151190-72-6P 151190-73-7P 151190-74-8P 151190-75-9P 151190-76-0P 151190-80-6P 151190-81-7P 151190-85-1P 151190-87-3P 151190-91-9P 151190-93-1P 151190-94-2P 151190-95-3P 151190-96-4P 151190-97-5P 151190-98-6P 151190-99-7P 151191-02-5P 151191-03-6P 151191-05-8P 151191-06-9P 151191-08-1P 151191-09-2P 151191-12-7P 151191-14-9P 151191-15-0P 151191-17-2P 151191-18-3P 151191-20-7P 151191-21-8P 151191-24-1P 151191-25-2P 151191-26-3P 151191-27-4P 151191-28-5P 151191-29-6P 151191-30-9P 151191-31-0P 151191-37-6P 151191-38-7P 151191-39-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and **HIV** viricidal activity of)
IT 19417-58-4P, 1,4-Benzenedipropanol 58791-49-4P 60023-32-7P 63134-93-0P 70364-29-3P 92339-07-6P 105355-16-6P 145617-64-7P 151190-69-1P 151190-70-4P 151190-71-5P 151190-77-1P 151190-79-3P 151190-82-8P 151190-83-9P 151190-84-0P 151190-86-2P 151190-88-4P 151190-89-5P 151190-92-0P 151191-00-3P 151191-01-4P 151191-04-7P 151191-07-0P 151191-10-5P 151191-11-6P 151191-13-8P 151191-16-1P 151191-19-4P 151191-22-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, in prepn. of heterocyclic **HIV** viricidal agents)
IT 575-41-7, 1,3-Dimethylnaphthalene 623-24-5, .alpha.,.alpha.'-Dibromo-p-xylene 623-27-8, 1,4-Benzenedicarboxaldehyde 626-15-3, .alpha.,.alpha.'-Dibromo-m-xylene 652-36-8 1099-45-2, Carbethoxymethylene)triphenylphosphorane 1198-37-4, 2,4-Dimethylquinoline 4741-99-5, 1,4,8,11-Tetraazaundecane 7703-74-4 14647-60-0 24656-53-9 28569-48-4 35991-75-4 39568-89-3 66977-70-6 71176-55-1 78831-37-5 94530-07-1 104395-69-9 110078-46-1 134457-14-0 151190-78-2 151191-23-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of heterocyclic **HIV** viricidal agents)
IT **7440-50-8DP**, Copper, 1,4-phenylenebismethylene bis tetraazacyclotetradecane complexes **7440-66-6DP, Zinc**, 1,4-phenylenebismethylene bis tetraazacyclotetradecane complexes
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and **HIV** viricidal activity of)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:463030 HCAPLUS
DN 119:63030
TI Complexes of DNA and metals as antiviral agents
IN Vainberg, Jury Petrovich; Kaplina, Elli Nikolaevna
PA Russia
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA Russian
IC ICM A61K031-70
ICS A61K009-08
CC 1-5 (Pharmacology)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9310793	A1	19930610	WO 1992-RU170	19920909 <--
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
PRAI SU 1991-5015754		19911203 <--		

AB Complexes of the sodium salt of DNA and polyvalent metals (Ni, Fe, Co, Mn, Mg, or **Zn**) are effective inhibitors of growth of a no. of animal DNA and RNA viruses. The ratio of DNA:metal in these complexes is in the range 10-1,000:0.5-3.0. Exposure of cultured **HIV**-infected cells to these complexes resulted in a drop in levels of antigen in a dose-dependent manner. The most effective complex was that with iron; at 1600 .mu.g/mL it was almost as effective as AZT at 500 .mu.g/mL. The complexes showed no cytotoxicity at 200 .mu.g/mL.
ST virucide DNA metal complex; **HIV** virucide DNA metal complex
IT **Virucides and Virustats**
(polyvalent metal complexes with DNA as)
IT Virus, animal
(carnivore plague, inhibitors for, polyvalent metal complexes with DNA as)
IT Deoxyribonucleic acids
RL: BIOL (Biological study)
(complexes, metal, as virucides)
IT Virus, animal
(herpes, inhibitors for, polyvalent metal complexes with DNA as)
IT **Virus, animal**
(**human immunodeficiency 1**, inhibitors for, polyvalent metal complexes with DNA as)
IT Virus, animal
(influenza, inhibitors for, polyvalent metal complexes with DNA as)
IT Virus, animal
(orthomyxo-, inhibitors for, polyvalent metal complexes with DNA as)
IT Virus, animal
(paramyxo-, inhibitors for, polyvalent metal complexes with DNA as)
IT **Virus, animal**
(**retro-**, inhibitors for, polyvalent metal complexes with DNA as)
IT **7439-89-6D**, Iron, DNA complexes 7439-95-4D, Magnesium, DNA complexes 7439-96-5D, Manganese, DNA complexes 7440-48-4D, Cobalt, DNA complexes **7440-66-6D, Zinc**, DNA complexes
RL: BIOL (Biological study)
(as virucides)
IT **7439-89-6D**, Iron, DNA complexes **7440-66-6D, Zinc**, DNA complexes

RL: BIOL (Biological study)
(as virucides)
RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:249284 HCAPLUS
DN 118:249284
TI Mixed ligand complexes for use as luminescence labels for detection and photochemical cleavage of DNA
IN Barton, Jacqueline K.
PA Columbia University, USA
SO U.S., 87 pp. Cont.-in-part of U.S. 5,112,974.
CODEN: USXXAM
DT Patent
LA English
IC A61K031-555; C07F000-00
NCL 514185000
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 1, 78
FAN.CNT 3

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE
PI	US 5157032	A	19921020		US 1990-539930	19900618 <--
	US 4721669	A	19880126		US 1985-693023	19850118 <--
	US 5112974	A	19920512		US 1988-268247	19881107 <--
	US 5439794	A	19950808		US 1992-843315	19920228 <--
	US 5225556	A	19930706		US 1992-927865	19920810 <--
PRAI	US 1985-693023		19850118	<--		
	US 1986-905295		19860908	<--		
	US 1988-268247		19881107	<--		
	US 1990-621651		19901203	<--		

OS MARPAT 118:249284
AB Complexes M(R1)(R2)(R3) (M = transition metal, R1, R2, R3= ethylenediamine, bipyridine, phenanthroline, diazafluorene-9-one, phenanthrenequinonediimine, dipyridophenazine, or their substituted derivs.) are used as luminescence probes for detection of double-stranded DNA. These complexes show modified luminescence upon incorporation into a double-stranded DNA. These complexes can also be used to photochem. cleave DNA at a specific single-strand site and are useful as an anal. reagent and in the treatment of viral infections (e.g. with **HIV**). 9,10-Phenanthrenequinone bis((-trimethylsilyl)-imine) 1.025 g, synthesized from 9,10-phenanthrenequinone and Na bis(trimethylsilyl)amide, in benzene 75 mL was mixed with a suspension of Ru(DMSO)4Cl2 0.355 g in an EtOH/benzene mixt. and incubated at 65.degree. until Ru(phi)3Cl2 formed; the product was collected by pptn. with di-Et ether. A series of analogs were also prepd. and their binding to DNA detd. by equil. dialysis; the spectroscopic properties of the complexes with DNA were also detd. Binding of the complexes to DNA was shown to be by intercalation. Photochem. cleavage of DNA with these complexes was base neutral and very clean. The use of these reagents in the killing of **HIV**-infected

T4 lymphocytes.
ST complex mixed ligand DNA binding; photochem cleavage DNA transition metal complex
IT **Virucides and Virustats**
(mixed ligand complexes of transition metals as, photochem. cleavage of DNA in relation to)
IT Transition metals, uses
RL: USES (Uses)
(mixed ligand complexes of, as luminescence labels for DNA, photochem. cleavage in relation to)
IT Photochemistry
(of DNA cleavage with luminescent transition metal mixed-ligand complexes)
IT Deoxyribonucleic acids
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. cleavage of, mixed ligand complexes of transition metals for)
IT **Virus, animal**
(**human immunodeficiency**, infection by, treatment of, mixed-ligand complexes of transition metals for)
IT Coordination compounds
RL: BIOL (Biological study)
(mixed-ligand, as luminescence labels for DNA, photochem. cleavage in relation to)
IT 14323-06-9 22563-12-8 22563-13-9 22873-66-1 23570-43-6
23757-39-3 54360-17-7 60828-36-6 60828-37-7 63373-03-5
75777-88-7 77479-83-5 77744-84-4 92543-42-5 93503-36-7
120311-41-3 120311-42-4 120311-43-5 120331-85-3 132045-64-8
132045-65-9 132045-69-3 132069-13-7 132069-14-8 132069-15-9
147789-89-7 147789-90-0
RL: USES (Uses)
(binding to DNA and luminescence properties of, photochem. cleavage in relation to)
IT 94552-81-5
RL: USES (Uses)
(for treatment of **HIV** infection)
IT **7439-89-6DP**, Iron, mixed-ligand complexes 7440-05-3DP, Palladium , mixed-ligand complexes 7440-15-5DP, Rhenium, mixed-ligand complexes 7440-18-8DP, Ruthenium, mixed-ligand complexes 7440-43-9DP, Cadmium, mixed-ligand complexes 7440-47-3DP, Chromium, mixed-ligand complexes 7440-48-4DP, Cobalt, mixed-ligand complexes **7440-50-8DP**, Copper, mixed-ligand complexes **7440-66-6DP**, **Zinc**, mixed-ligand complexes
RL: PREP (Preparation)
(prepn. of, as luminescence labels for DNA, photochem. cleavage in relation to)
IT 121174-89-8P
RL: PREP (Preparation)
(prepn. of, for binding and photochem. cleavage of DNA)
IT 110528-02-4P 110528-03-5P 110528-05-7P
RL: PREP (Preparation)
(prepn. of, in prepn. mixed-ligand complexes for binding and photochem. cleavage of DNA)
IT 1070-89-9 18054-46-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, in prepn. mixed-ligand complexes for binding and photochem. cleavage of DNA)
IT **7439-89-6DP**, Iron, mixed-ligand complexes **7440-50-8DP**, Copper, mixed-ligand complexes **7440-66-6DP**, **Zinc**, mixed-ligand complexes
RL: PREP (Preparation)
(prepn. of, as luminescence labels for DNA, photochem. cleavage in relation to)

RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:27465 HCAPLUS
DN 118:27465
TI Particulate drugs
IN Filler, Aaron Gershon; Lever, Andrew Michael Lindsay
PA St. George's Enterprises Ltd., UK
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K009-51
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 8
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9211846	A1	19920723	WO 1992-EP21	19920104	<--
	W: AU, CA, JP, NO, US					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE					
	EP 861667	A2	19980902	EP 1997-119199	19910913	<--
	EP 861667	A3	20010808			
	R: DE, FR, GB					
	CA 2099869	AA	19920708	CA 1992-2099869	19920104	<--
	AU 9211536	A1	19920817	AU 1992-11536	19920104	<--
	EP 566590	A1	19931027	EP 1992-901269	19920104	<--
	EP 566590	B1	19970319			
	R: BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE					
	JP 06504274	T2	19940519	JP 1992-501422	19920104	<--
	US 5614652	A	19970325	US 1993-87781	19931005	<--
	US 5948384	A	19990907	US 1995-473697	19950607	<--
PRAI	GB 1991-233	A	19910107	<--		
	GB 1991-981	A	19910116	<--		
	GB 1991-2146	A	19910131	<--		
	GB 1991-10876	A	19910520	<--		
	GB 1991-16373	A	19910730	<--		
	GB 1991-17851	A	19910819	<--		
	GB 1991-18676	A	19910830	<--		
	GB 1991-19665	A	19910913	<--		
	GB 1990-20075	A	19900914	<--		
	GB 1990-23580	A	19901030	<--		
	GB 1990-27293	A	19901217	<--		

GB 1991-2214 A 19910201 <--
EP 1991-916129 A3 19910913 <--
WO 1992-EP21 A 19920104 <--
US 1993-988919 B3 19930504 <--

AB The use of particulate drugs in therapeutic or prophylactic treatments of conditions involving cellular infection or malfunction is described. Pharmaceutical compns. comprising endocytosable particles of radionuclide; metal, an alloy, oxide or a sulfide and an excipient can be used. The synthesis of ferrite particles and use of these particles for diseases treatment described.

ST particle pharmaceutical therapy; metal pharmaceutical therapy; virus particle pharmaceutical therapy; radionuclide particle pharmaceutical therapy

IT Neoplasm inhibitors
Virucides and Virustats
(inorg. particles)

IT Macrophage
(inorg. pharmaceutical particles uptake by, in diseases treatment)

IT Phagocytosis
(of inorg. pharmaceutical particles, disease treatment in relation to)

IT Alloys, biological studies
Metals, biological studies
Oxides, biological studies
Radioelements, biological studies
Sulfides, biological studies
RL: BIOL (Biological study)
(pharmaceutical particles contg., for diseases treatment)

IT Ferrite substances
RL: PREP (Preparation)
(prepn. of particles of, for disease treatment)

IT **Virus, animal**
(**human immunodeficiency**, treatment of, with inorg. particles)

IT Pharmaceutical dosage forms
(particles, inorg. agent-contg., for disease treatment)

IT 7440-20-2, Scandium, biological studies
RL: BIOL (Biological study)
(in ferrite particles synthesis for disease treatment)

IT 7705-08-0, Ferric chloride, reactions 7758-94-3, Ferrous chloride 9004-54-0, Dextran, biological studies
RL: RCT (Reactant); RACT (Reactant or reagent)
(in ferrite particles synthesis for diseases treatment)

IT 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7440-02-0, Nickel, biological studies 7440-05-3, Palladium, biological studies 7440-48-4, Cobalt, biological studies **7440-50-8**, Copper, biological studies **7440-66-6**, **Zinc**, biological studies 14596-12-4, Iron 59, biological studies
RL: BIOL (Biological study)
(pharmaceutical particles contg., for diseases treatment)

IT **7440-50-8**, Copper, biological studies **7440-66-6**, **Zinc**, biological studies
RL: BIOL (Biological study)
(pharmaceutical particles contg., for diseases treatment)

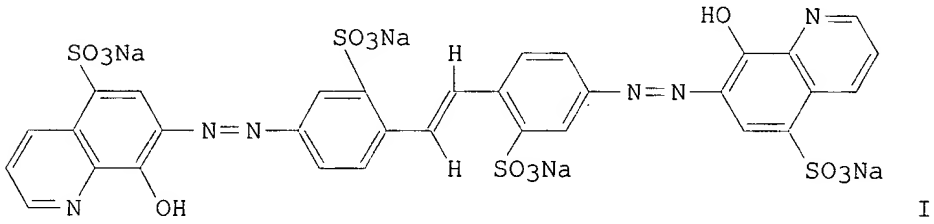
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1993:15843 HCAPLUS
DN 118:15843
TI Quinobene, a new potent anti-**HIV** agent
AU Gruszecka-Kowalik, Ewa; Haugwitz, Rudiger D.; Zalkow, Leon H.
CS Sch. Chem. Biochem., Georgia Inst. Technol., Atlanta, GA, 30332, USA
SO Biochemical and Biophysical Research Communications (**1992**), 187(3), 1409-17
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 1-3 (Pharmacology)
GI



I

AB A simple synthesis of the sulfonated azo dye Quinobene (I) and its derivs., as well as the results of their evaluation in anti-**HIV** screening have been described. Thus, reacting the diazonium salt of 4,4'-diaminostilbene-2,2'-disulfonic acid with 8-hydroxyquinoline-5-sulfonic acid yielded readily isolable I. The lithium and tetramethylammonium salts of I and its complexes with Cu(II), **Zn** (II), Mg(II) were also prepd. In vitro tests showed considerable activity of these compds. against **HIV**-1.

ST Quinobene prepn structure antiHIV

IT **Virucides and Virustats**
(quinobene and derivs., against **HIV**-1)

IT **Virus, animal**
(**human immunodeficiency 1**, quinobene and derivs. toxicity to, structure in relation to)

IT Molecular structure-biological activity relationship
(virucidal, of quinobene and derivs.)

IT 81-11-8, 4,4'-Diaminostilbene-2,2'-disulfonic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(diazotization of)

IT 145023-04-7 145037-85-0
RL: BIOL (Biological study)
(**human immunodeficiency virus** inhibition by, structure in relation to)

IT 140942-13-8P, Quinobene
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and anti-**HIV** activity, structure in relation to)

IT 7439-93-2DP, Lithium, quinobene complex 7439-95-4DP, Magnesium, quinobene complex **7440-50-8DP**, Copper, quinobene complex **7440-66-6DP**, **Zinc**, quinobene complex 140942-13-8DP, metal complexes
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 145022-85-1P 145022-87-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, anti-**HIV** activity and structure in relation to)
IT 51-92-3DP, Tetramethylammonium, quinobene complex
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, structure and anti-**HIV** activity of)
IT 84-88-8, 8-Hydroxyquinoline-5-sulfonic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of)
IT **7440-50-8DP**, Copper, quinobene complex **7440-66-6DP**, **Zinc**, quinobene complex
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN **1992:104322** HCAPLUS
DN **116:104322**
TI Viral decoy vaccine
IN Kossovsky, Nir; Bunshah, Rointan F.
PA University of California, Oakland, USA
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM A61K009-16
ICS A61K039-12
CC 15-2 (Immunochemistry)
Section cross-reference(s): 63
FAN.CNT 10

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	EP 465081	A1	19920108		EP 1991-305706	19910624	<--
	EP 465081	B1	19940420				
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE						
	US 5219577	A	19930615		US 1990-542255	19900622	<--
	US 5178882	A	19930112		US 1991-690601	19910424	<--
	CA 2045204	AA	19911223		CA 1991-2045204	19910621	<--
	CA 2045204	C	19990105				
	AU 9179210	A1	19920102		AU 1991-79210	19910621	<--
	AU 638841	B2	19930708				
	JP 05255111	A2	19931005		JP 1991-178805	19910624	<--
	JP 2932406	B2	19990809				
	AT 104546	E	19940515		AT 1991-305706	19910624	<--
	ES 2055539	T3	19940816		ES 1991-305706	19910624	<--
	US 5462750	A	19951031		US 1994-225100	19940408	<--
PRAI	US 1990-542255		19900622	<--			
	US 1991-690601		19910424	<--			
	EP 1991-305706		19910624	<--			
	US 1993-986		19930106	<--			

AB A biol. active compn. is provided which consists of core particles (diam. <1000 nm) coated with a layer (e.g. of a sugar) designed to allow attachment of biol. active proteins, peptides, or pharmacol. agents to the microparticles. When viral protein is attached to the particles, the result is a viral decoy which accurately mimics the native virus in both size and structure, while being entirely devoid of virulent activity. Other antigenic proteins or peptides are attached to provide mols. useful in raising antibodies or as a diagnostic tool. Pharmacol. agents are attached to the microparticles to provide pharmaceutical compns. The viral decoys are useful as vaccines. Thus, cellobiose-coated nanocryst. tin oxide microparticles were prepd. and used to immobilize Epstein-Barr virus (EBV) proteins to produce an EBV decoy. The EBV decoy had the same surface charge as the native virus, was recognized specifically and avidly by monoclonal antibodies, and evoked immunospecific antibodies with the same effectiveness as whole virus.

ST virus decoy vaccine; Epstein Barr virus decoy particle; particle protein immobilization vaccine virus; peptide immobilization particle vaccine virus

IT Carbohydrates and Sugars, uses
RL: USES (Uses)
(core particle coated with, protein or peptide bound to, for viral decoy for vaccine)

IT Ceramic materials and wares
Metals, uses
Polymers, uses
RL: USES (Uses)
(core particle of, for protein or peptide binding for viral decoy for vaccine)

IT Particles
(protein or peptide bound to, for viral decoy for vaccine)

IT Virus, animal
(protein- or peptide-coated particles as decoys for, for vaccine)

IT Vaccines
(viral decoy, particles with bound protein or peptide for)

IT Virus, animal
(Epstein-Barr, vaccine against, viral decoy particles for)

IT Virus, animal
(herpes, vaccine against, viral decoy particles for)

IT **Virus, animal**
(**human immunodeficiency**, vaccine against, viral decoy particles for)

IT Virus, animal
(human papilloma, vaccine against, viral decoy particles for)

IT Nucleotides, polymers
RL: BIOL (Biological study)
(oligo-, core particle coated with, protein or peptide bound to, for viral decoy for vaccine)

IT Virus, animal
(pox, vaccine against, viral decoy particles for)

IT 528-50-7, Cellobiose
RL: BIOL (Biological study)
(core particle coated with, protein or peptide bound to, for viral decoy for vaccine)

IT 1332-29-2, Tin oxide 1344-28-1, Aluminum oxide, biological studies **7439-89-6**, Iron, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-17-7, Rubidium, uses 7440-22-4, Silver, uses 7440-44-0, Carbon, biological studies 7440-47-3, Chromium, uses 7440-57-5, Gold, uses **7440-66-6**, **Zinc**, uses 7631-86-9, Silicon dioxide, uses 7782-40-3, Diamond, uses 7782-49-2, Selenium, uses 9003-53-6, Polystyrene 11113-84-1, Ruthenium oxide
RL: BIOL (Biological study)
(core particle of, for protein or peptide binding for viral decoy for vaccine)

IT **7439-89-6**, Iron, uses **7440-66-6**, **Zinc**, uses
RL: BIOL (Biological study)
(core particle of, for protein or peptide binding for viral decoy for vaccine)
RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

L78 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1991:35979 HCAPLUS
DN 114:35979
TI Inductively heated magnetic particles and other methods for diagnosis or treatment of viruses and virus-infected cells
IN Gordon, David
PA USA
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61N005-02
ICS A61N002-00; A61N001-00; A61K043-00; A61K049-00
CC 1-5 (Pharmacology)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9007322	A1	19900712	WO 1989-US5650	19891218 <--
	W: JP				
	RW: AT, BE, CH, DE, ES, FR, GB, IT, LU, NL, SE				
	CA 2006051	AA	19900619	CA 1989-2006051	19891219 <--
PRAI	US 1988-285979		19881219 <--		

AB Methods are provided for treatment and/or diagnosis and/or siting of viruses, e.g. the **AIDS** virus, and the cells they infect. The methods comprise, e.g., introducing near, into, or onto the virus or virus-infected cell or both, minute particles having ferro- or dia- or paramagnetic properties. After localization, the particles are inductively heated by application of an alternating magnetic field for a time sufficient to bring about a temp. rise to a min. necessary to kill or desirably alter the behavior of the virus or virus-infected cell. Prior to, during, or after treatment, the particles can be used diagnostically to locate and/or map the virus in the living tissue. Treatment of viruses or virus-infected cells by alteration of O delivery or metabolic rate is also disclosed.
ST magnetic particle induction heat virucide; oxygen alteration virucide; metab alteration virucide; **AIDS** virus magnetic particle heat
IT **Virucides and Virustats**
(chemotherapeutic agent-contg. particles as)
IT Hydroxamic acids
RL: BIOL (Biological study)
(derivs., magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Dielectric property
Electric conductivity and conduction

(detn. of, in particle distribution detn. in virus infection treatment and diagnosis)
IT Porphyrins
RL: BIOL (Biological study)
(dicarboxylic acid-contg., magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Chelating agents
(for iron, magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Porphyrins
RL: BIOL (Biological study)
(hemato-, magnetic particles of, inductive heating of, for virus infection diagnosis and treatment)
IT Heat, biological effects
(inductive, application to magnetic particles for virus infection diagnosis and treatment)
IT Mitochondria
(iron of, inductive heating of endogenous, for virus infection diagnosis and treatment)
IT Ferritins
Inorganic compounds
Organic compounds, biological studies
RL: BIOL (Biological study)
(magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Chlorophylls, biological studies
Cytochromes
Ferredoxins
Rubredoxins
RL: BIOL (Biological study)
(magnetic particles of, inductive heating of, for virus infection diagnosis and treatment)
IT Dipole moment
(mols. having, in viral infection treatment)
IT Antibodies
RL: BIOL (Biological study)
(particles bound to, for virus infection treatment)
IT Radioelements, biological studies
RL: BIOL (Biological study)
(particles bound to, for virus infection treatment, increased rate of metab. or oxidn. in relation to)
IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(particles contg., for virus infection treatment)
IT Reducing agents
(particles of, for virus infection treatment, increased rate of metab. or oxidn. in relation to)
IT Animal metabolism
(virus infection treatment by alteration of rate of)
IT Phosphates, biological studies
RL: BIOL (Biological study)
(virus infection treatment with, oxygen availability in relation to)
IT Virus, animal
(DNA-contg., treatment of infection with, with alteration of oxygen delivery)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(E (envelope), ferritin particles binding to viral, in virus infection treatment)
IT Imaging
(ESR, for virus infection diagnosis, inductive heating of magnetic particles in relation to)
IT Imaging

(NMR, for virus infection diagnosis, inductive heating of magnetic particles in relation to)
IT Virus, animal
(RNA-contg., treatment of infection with, with alteration of oxygen delivery)
IT **Immunodeficiency**
(**acquired** immune deficiency **syndrome**, diagnosis of, inductive heating of magnetic particles in)
IT Therapeutics
(chemo-, agent for, particle of, for virus infection treatment)
IT Transferrins
RL: BIOL (Biological study)
(complexes, with ferric ferrous oxide and dextran, magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Rare earth metals, compounds
RL: BIOL (Biological study)
(dextran complexes, magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Particles
(diamagnetic, inductive heating of, in virus infection diagnosis and treatment)
IT Particles
(ferromagnetic, inductive heating of, in virus infection diagnosis and treatment)
IT **Virus, animal**
(**human immunodeficiency**, treatment of infection with, inductive heating of magnetic particles in)
IT Proteins, specific or class
RL: BIOL (Biological study)
(iron-sulfur-contg., magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Superconductor devices
(magnetometers, quantum interference, for virus infection diagnosis, inductive heating of magnetic particles in relation to)
IT Phenols, compounds
RL: BIOL (Biological study)
(metal salts, magnetic particles contg., inductive heating of, for virus infection diagnosis and treatment)
IT Phosphorylation, biological
(oxidative, virus infection treatment by alteration of)
IT Particles
(paramagnetic, inductive heating of, in virus infection diagnosis and treatment)
IT Magnetometers
(superconductive, quantum interference, for virus infection diagnosis, inductive heating of magnetic particles in relation to)
IT 81-88-9D, complexes with platinum 493-90-3 553-12-8 1185-57-5 1314-36-9, Yttrium oxide, biological studies 1400-46-0D, Mycobactin, derivs. 7429-91-6, Dysprosium, biological studies **7439-89-6D**, Iron, dextran and myobactin complexes 7439-96-5D, Manganese, dextran complexes 7440-02-0D, Nickel, dextran complexes 7440-06-4D, Platinum, dextran complexes 7440-06-4D, Platinum, rhodamine complexes 7440-19-9, Samarium, biological studies 7440-27-9, Terbium, biological studies 7440-30-4, Thulium, biological studies 7440-47-3D, Chromium, dextran complexes 7440-48-4D, Cobalt, dextran complexes 7440-52-0, Erbium, biological studies 7440-53-1, Europium, biological studies 7440-55-3, Gallium, biological studies 7440-60-0, Holmium, biological studies 7440-64-4, Ytterbium, biological studies 7440-65-5, Yttrium, biological studies **7440-66-6D**, **Zinc**, dextran complexes 9004-54-0D, Dextran, metal complexes 12005-21-9, Aluminum yttrium oxide (Al5Y3O12) 12036-44-1, Thulium oxide (Tm2O3) 12063-56-8, Iron yttrium oxide (Fe5Y3O12) 12770-85-3, Europium oxide 13478-49-4, Erbium sulfate

13510-71-9 13537-15-0, Europium sulfate 13692-99-4, Terbium sulfate
14373-91-2, Dysprosium sulfate 15630-64-5D, Ferrichrome, derivs.
26183-20-0D, derivs. 26316-36-9 27121-71-7 28384-96-5, Enterochelin
34787-28-5D, derivs. 38414-00-5, Samarium sulfate 39455-61-3, Holmium
oxide 53800-82-1, Ytterbium sulfide
RL: BIOL (Biological study)
(magnetic particles contg., inductive heating of, for virus infection
diagnosis and treatment)

IT 1309-33-7D, Ferric hydroxide, dextran complexes 1309-38-2D, Magnetite
(Fe3O4), complexes with dextran and transferrin 35218-75-8
35218-75-8D, derivs.
RL: BIOL (Biological study)
(magnetic particles of, inductive heating of, for virus infection
diagnosis and treatment)

IT 14133-76-7, Technetium-99, biological studies 14885-78-0, Indium-113,
biological studies
RL: BIOL (Biological study)
(metastable, particles bound to, for virus infection treatment)

IT 7782-41-4D, Fluorine, radioisotopes 14119-09-6, Gallium-67, biological
studies 14265-71-5, Selenium-75, biological studies
RL: BIOL (Biological study)
(particles bound to, for virus infection treatment)

IT 50-99-7, D-Glucose, biological studies 57-50-1, Sucrose, biological
studies
RL: BIOL (Biological study)
(particles contg., for virus infection treatment)

IT 2338-05-8, Iron citrate 10290-71-8, Iron carbonate 20344-49-4, Iron
hydroxide oxide (Fe(OH)O)
RL: BIOL (Biological study)
(particles of, for virus infection treatment, increased rate of metab.
or oxidn. in relation to)

IT 50-99-7, D-Glucose, biological studies
RL: BIOL (Biological study)
(virus infection treatment by control of delivery of, to virus or
virus-infected cell)

IT 7782-44-7, Oxygen, biological studies
RL: BIOL (Biological study)
(virus infection treatment with alteration of delivery of)

IT 138-81-8
RL: PRP (Properties)
(virus infection treatment with increase of in vivo level of, oxygen
availability in relation to)

IT **7439-89-6D, Iron**, dextran and myobactin complexes
7440-66-6D, Zinc, dextran complexes
RL: BIOL (Biological study)
(magnetic particles contg., inductive heating of, for virus infection
diagnosis and treatment)

RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

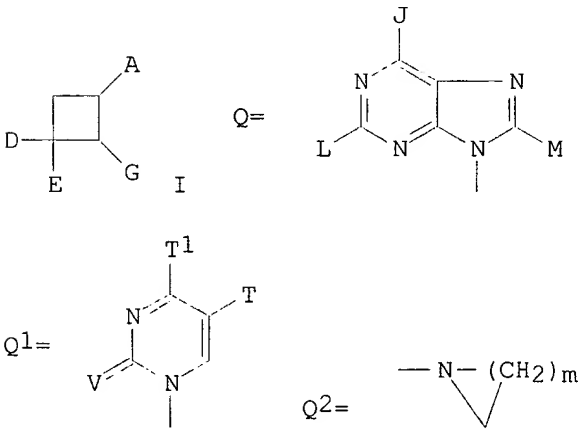
Zn

L78 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:612577 HCAPLUS
DN 113:212577
TI Preparation of nucleoside cyclobutane analogs as antiviral and antitumor agents
IN Norbeck, Daniel W.; Plattner, Jacob J.; Rosen, Terry J.; Pariza, Richard J.; Sowin, Thomas J.; Garmaise, David L.; Hannick, Steven M.
PA Abbott Laboratories, USA
SO Eur. Pat. Appl., 115 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C07D473-00
ICS C07D487-04; C07D471-04; A61K031-52; C07D239-54; C07D253-06; C07D251-26; C07D213-69; C07C215-42; C07F007-18; C07C275-26
CC 33-9 (Carbohydrates)
Section cross-reference(s): 1
FAN.CNT 1

	PATENT NO.	KIND	DATE		APPLICATION NO.	DATE	
PI	EP 366059	A2	19900502		EP 1989-119703	19891024	<--
	EP 366059	A3	19911218				
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE						
	CA 2001318	AA	19900425		CA 1989-2001318	19891024	<--
	DK 8905292	A	19900426		DK 1989-5292	19891024	<--
	AU 8943785	A1	19900503		AU 1989-43785	19891025	<--
	JP 03047169	A2	19910228		JP 1989-278337	19891025	<--
	US 5153352	A	19921006		US 1990-570198	19900820	<--
	US 5246931	A	19930921		US 1991-694538	19910501	<--
PRAI	US 1988-262547		19881025	<--			
	US 1989-319385		19890303	<--			
	US 1989-420691		19891017	<--			

OS MARPAT 113:212577
GI



AB The title compds. [I; A = purin-9-yl (Q), pyrimidin-1-yl (Q1) or its heterocyclic isostere; J, L = H, OH, alkoxy, SH, thioalkoxy, N3, Q2, (un)substituted NH2, N:CHNH2, NHOH, or NHNH2; m = 1-6; M = H, alkyl, halo, Q2, (un)substituted NH2; T = H, alkyl, 2-haloethyl, halomethyl, CF2H, CF3, halo, cyano, NO2, CH:CH2, SH, NHOH, unsubstituted NH2, Q2, etc.; V = O, S; T1 = OH, SH, alkoxy, thioalkoxy, halo, Q2; D, G = H, alkyl, OH, CH2OH, alkoxymethyl, alkylcarbonyloxymethyl, aminoalkylcarbonyloxymethyl, etc.; E = H, CH2OH, OH;] are prepd. Thus, condensation of 2,3-bis(hydroxymethyl)cyclobutylamine hydrochloride with 2-amino-4,6-

dichlorpyrimidine in EtOH contg. Et3N and diazo coupling of the resulting 3-[(2'-amino-6'-chloro-4'-pyrimidinyl)amino]-1,2-bis(hydroxymethyl)cyclobutane with 4-ClC6H4N2+Cl- followed by **Zn** redn. in AcOH gave 3-[(6'-chloro-2',5'-diamino-4'-pyrimidinyl)amino]-1,2-bis(hydroxymethyl)cyclobutane. Cyclocondensation of the latter with AcOCH2(OEt)2 under reflux followed by hydrolysis gave 9-[2',3'-bis(hydroxymethyl)cyclobutyl]guanine (II). Approx. 25 I were prepd. and II in vitro was active against herpes simplex **virus**, **human immunodeficiency virus** 1 and 2, **human** cytomegalovirus, and Varicella-Zoster **virus**. II in vivo was active against hepatitis B **virus** in ducklings and **HIV** in mice. II and 4 other I showed antitumor activity against **human** lung carcinoma A549, **human** adenocarcinoma HCT-8 and mouse lymphocytic leukemia P388-DI.

ST carbocyclic nucleoside cyclobutane analog antiviral; antitumor carbocyclic nucleoside cyclobutane analog

IT Neoplasm inhibitors
Virucides and Virustats
(cyclobutylpurines and -pyrimidines)

IT Nucleosides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(carbocyclic, cyclobutylpurines and -pyrimidines, prepn. of, as virucides)

IT **Virus, animal**
(**human immunodeficiency**, infection with, treatment of, cyclobutylpurines and -pyrimidines for)

IT **Virus, animal**
(**human immunodeficiency 1**, infection with, treatment of, cyclobutylpurines and -pyrimidines for)

IT **Virus, animal**
(**retro-**, infection with, treatment of, cyclobutylpurines and -pyrimidines for)

IT 2028-74-2P, 4-Chlorobenzenediazonium chloride 29737-65-3P 40628-41-9P
57637-10-2P 75880-66-9P 130368-89-7P 130368-90-0P 130368-91-1P
130368-92-2P 130368-93-3P 130368-94-4P 130368-95-5P 130368-96-6P
130368-97-7P 130368-98-8P 130368-99-9P 130369-00-5P 130369-01-6P
130369-02-7P 130369-03-8P 130369-04-9P 130369-05-0P 130369-06-1P
130369-07-2P 130369-08-3P 130369-09-4P 130369-10-7P 130369-11-8P
130369-12-9P 130369-13-0P 130369-14-1P 130369-15-2P 130369-16-3P
130369-17-4P 130369-18-5P 130369-19-6P 130369-20-9P 130369-21-0P
130369-22-1P 130369-23-2P 130369-24-3P 130369-25-4P 130369-26-5P
130369-27-6P 130369-28-7P 130369-29-8P 130369-30-1P 130369-31-2P
130369-32-3P 130369-33-4P 130369-34-5P 130369-35-6P 130369-36-7P
130369-37-8P 130369-38-9P 130369-39-0P 130369-40-3P 130369-41-4P
130369-42-5P 130369-43-6P 130369-44-7P 130369-45-8P 130369-46-9P
130369-47-0P 130369-48-1P 130369-49-2P 130369-50-5P 130369-51-6P
130369-52-7P 130369-53-8P 130369-54-9P 130369-55-0P 130369-56-1P
130369-57-2P 130369-58-3P 130369-59-4P 130369-60-7P 130369-61-8P
130369-62-9P 130369-63-0P 130369-64-1P 130369-65-2P 130369-66-3P
130396-58-6P 130396-59-7P 130396-60-0P 130396-61-1P 130464-71-0P
130464-73-2P 130464-74-3P 130464-75-4P 130466-29-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for carbocyclic nucleoside cyclobutane analog)

IT 130369-67-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for nucleoside analog)

IT 130369-62-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for virucide)

IT 130368-76-2P 130368-77-3P 130368-78-4P 130368-79-5P 130368-80-8P
130368-81-9P 130368-82-0P 130368-83-1P 130368-84-2P 130368-85-3P
130368-86-4P 130368-87-5P 130368-88-6P 130369-68-5P 130369-69-6P

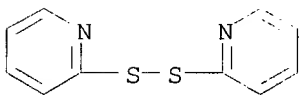
130369-70-9P 130396-57-5P 130464-62-9P 130464-63-0P 130464-64-1P
130464-65-2P 130464-66-3P 130464-67-4P 130464-68-5P 130464-69-6P
130464-70-9P 130464-72-1P 130464-77-6P 130466-27-2P 130466-28-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of, as virucide)

IT 5413-85-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of nucleoside analog)

IT 56-05-3, 2-Amino-4,6-dichloropyrimidine 64-18-6, Formic acid, reactions 73-24-5, Adenine, reactions 75-65-0, reactions 100-51-6, Benzenemethanol, reactions 106-47-8, reactions 108-31-6, 2,5-Furandione, reactions 122-51-0, Triethyl orthoformate 499-02-5 593-56-6, O-Methylhydroxylamine hydrochloride 593-60-2, Vinyl bromide 624-48-6, Dimethyl maleate 624-49-7 1007-99-4 1118-02-1, Trimethylsilyl isocyanate 1125-88-8, Benzaldehyde dimethyl acetal 1822-73-7, Phenyl vinyl sulfide **2127-03-9** 3315-16-0, Silver cyanate 5413-85-4, 5-Amino-4,6-dichloropyrimidine 5470-11-1, Hydroxylamine hydrochloride 10310-21-1, 2-Amino-6-chloropurine 14036-06-7, Diethoxymethyl acetate 14052-82-5 15760-36-8 16333-93-0, 1-Aminomethyl-3-methylenecyclobutane 18162-48-6, tert-Butyldimethylsilyl chloride 19597-69-4, Lithium azide 23519-90-6, 1-Cyclobutenecarboxylic acid 24424-99-5, Di-tert-butyl dicarbonate 26386-88-9 52410-41-0 58479-61-1, tert-Butyldiphenylsilyl chloride 78001-78-2, Methyl 4,4-diethoxy-1-cyclobutenecarboxylate 91352-79-3 99471-66-6 106938-62-9, Diethylphosphonomethyl triflate 115118-68-8 130464-76-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of virucidal cyclobutylpurine or -pyrimidine)

IT **2127-03-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of virucidal cyclobutylpurine or -pyrimidine)

RN 2127-03-9 HCAPLUS
CN Pyridine, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



L78 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2003 ACS
AN 1989:567382 HCAPLUS
DN 111:167382
TI Anti-**AIDS** drug containing sugars and inorganic elements extracted from Lentinus edodes
IN Iizuka, Chiyokichi; Maeda, Hiroaki
PA Noda Shokukin Kogyo Co., Ltd., Japan
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM A61K035-84
CC 1-5 (Pharmacology)
Section cross-reference(s): 16
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 292601	A1	19881130	EP 1987-110692	19870723 <--
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
PRAI JP 1987-117286		19870514 <--		

AB A compn. for treatment of **AIDS** comprises an ext. of Lentinus edodes mycelium contg. sugars, protein, and an inorg. element. The sugar is glucose, galactose, mannose, xylose, arabinose, fucose, and/or rhamnose. The inorg. element is K, Ca, Mn, Fe, Ni, Cu, **Zn**, Ge, Br-, Rb, and/or Sr. L. edodes was cultivated on a solid medium contg. bagasse 90, rice bran 5, and nutrients (e.g. wheat bran) 5% at 20-25.degree. and 60% relative humidity for 4-6 mo. The medium was then heated at 32-34.degree. for 24-48 h, maintained at 5-8.degree. for 5-7 days, cultured further for formation of fruiting bodies, dried (with autolysis of the mycelium), extd. with boiling water, filtered, condensed by ultrafiltration, and freeze dried. The product comprised sugar 44.0, protein 24.6, and other constituents 31.4%. The sugar compn. was glucose 27.5, galactose 3.1, mannose 6.7, xylose 30.9, arabinose 30.5, fucose 0.7, and rhamnose 0.6%. The elemental compn., detd. by radiog., was K 15.09, Ca 22.00, Mn 1.208, Fe 2.362, Ni 52.5, Cu 89.1, **Zn** 282.8, Ge <4, Br 11.4, Rb 39.4, and Sr 164.3 mg/g dry wt. A patient with symptoms of **AIDS**, antibodies to the **AIDS** virus, and a T4 cell count of 1250/mm3 was given the above prepn. orally at 6 g/day. The T4 cell count increased to 2045 after 30 days and 2542/mm3 after 60 days with amelioration of symptoms. The L. edodes ext. also inhibited prodn. of **AIDS** virus by infected MT-4 lymphocytes in vitro, enhanced prodn. of interleukin 1 by peritoneal macrophages, and was mitogenic toward mouse spleen cells. The oral and s.c. LD50 values in male rats were 17.2 and 4.5 g/kg, resp.

ST **AIDS** treatment Lentinus sugar metal

IT Macrophage
(interleukin 1 formation by, sugars and inorg. elements of Lentinus edodes effect on)

IT Carbohydrates and Sugars, biological studies
Elements
Proteins, biological studies
RL: BIOL (Biological study)
(of Lentinus edodes, **AIDS** treatment with)

IT Fermentation
(proteins and sugars and inorg. elements, with Lentinus edodes, neoplasm inhibition in relation to)

IT **Virucides and Virustats**
(sugars and inorg. elements of Lentinus edodes, **AIDS** virus inhibition by)

IT Lentinus edodes
(sugars and inorg. elements of, **AIDS** treatment with)

IT **Immunodeficiency**
(**acquired** immune deficiency **syndrome**, treatment of, with sugars and inorg. elements of Lentinus edodes)

IT Lymphocyte
(disease, infection, by **AIDS** virus, inhibition of, with sugars and inorg. elements of Lentinus edodes)

IT **Virus, animal**
(**human immunodeficiency 1**, infection with, treatment of, with sugars and inorg. elements of Lentinus edodes)

IT Lymphokines and Cytokines
RL: FORM (Formation, nonpreparative)
(interleukin 1, formation of, by macrophage, sugars and inorg. elements of Lentinus edodes effect on)

IT 50-99-7, D-Glucose, biological studies 58-86-6, Xylose, biological studies 59-23-4, D-Galactose, biological studies 147-81-9, Arabinose 2438-80-4, Fucose 3458-28-4, D-Mannose 3615-41-6, Rhamnose **7439-89-6**, Iron, biological studies 7439-96-5, Manganese, biological studies 7440-02-0, Nickel, biological studies 7440-09-7, Potassium, biological studies 7440-17-7, Rubidium, biological studies 7440-24-6, Strontium, biological studies **7440-50-8**, Copper, biological studies 7440-56-4, Germanium, biological studies **7440-66-6**, **Zinc**, biological studies 7440-70-2,

Calcium, biological studies 24959-67-9, Bromide, biological studies
RL: BIOL (Biological study)
(of Lentinus edodes, **AIDS** treatment with)
IT **7439-89-6**, Iron, biological studies **7440-50-8**, Copper, biological studies **7440-66-6**, **Zinc**, biological studies
RL: BIOL (Biological study)
(of Lentinus edodes, **AIDS** treatment with)
RN 7439-89-6 HCAPLUS
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

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FILE 'BIOSIS' ENTERED AT 15:03:23 ON 15 MAR 2003
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 12 March 2003 (20030312/ED)

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L103 ANSWER 1 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:143596 BIOSIS
DN PREV199698715731
TI Development of a new class of antiretroviral drugs attacking highly conserved **zinc** fingers in **nucleocapsid** proteins.
AU **Henderson, L. E. (1)**; Ott, D. E. (1); Desrosiers, R. C.; Lifson, J. D.; Turpin, J. A.; **Rice, W. G. (1)**; **Arthur, L. O. (1)**
CS (1) NCI-FCRDC, SAIC Frederick, Frederick, MD 21702 USA
SO Journal of Medical Primatology, (1995) Vol. 24, No. 4, pp. 185.
Meeting Info.: 13th Annual Symposium on Nonhuman Primate Models for AIDS Monterey, California, USA November 5-8, 1994
ISSN: 0047-2565.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Minerals 10069
Pathology, General and Miscellaneous - Therapy 12512
Genetics of Bacteria and Viruses *31500

Virology - Animal Host Viruses 33506
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Cercopithecidae 86205
Muridae *86375
IT Major Concepts
Genetics; Immune System (Chemical Coordination and Homeostasis); Infection; Pharmacology
IT Miscellaneous Descriptors
MEETING ABSTRACT; VIRAL REPLICATION
ORGN Super Taxa
Cercopithecidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human immunodeficiency virus (Retroviridae); macaque monkey (Cercopithecidae); mouse (Muridae); **simian immunodeficiency virus (Retroviridae)**
ORGN Organism Superterms
animals; chordates; mammals; microorganisms; nonhuman mammals; nonhuman primates; nonhuman vertebrates; primates; rodents; vertebrates; viruses

L103 ANSWER 2 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:17766 BIOSIS
DN PREV199698589901
TI Inhibitors of HIV **nucleocapsid** protein **zinc** fingers as candidates for the treatment of AIDS.
AU **Rice, William G. (1)**; Supko, Jeffrey G.; Malspeis, Louis; Buckheit., Robert W., Jr.; Clanton, David; Bu, Ming; Graham, Lisa; Schaeffer, Catherine A.; Turpin, Jim A.; Domagala, John; Gogiotti, Rocco; Bader, John P.; Halliday, Susan M.; Coren, Lori; Sowder, Raymond C. Ii; **Arthur, Larry O.; Henderson, Louis**
CS (1) Lab. Antiviral Drug Mechanisms, PRI/DynCorp., National Cancer Inst., Frederick Cancer Research Development Center, Frederick, MD 21702 USA
SO Science (Washington D C), (1995) Vol. 270, No. 5239, pp. 1194-1197. ISSN: 0036-8075.
DT Article
LA English
AB Strategies for the treatment of human immunodeficiency virus-type 1 (HIV-1) infection must contend with the obstacle of drug resistance. HIV-1 **nucleocapsid** protein **zinc** fingers are prime antiviral targets because they are mutationally intolerant and are required both for acute infection and virion assembly. Nontoxic disulfide-substituted benzamides were identified that attack the **zinc** fingers, inactivate cell-free virions, inhibit acute and chronic infections, and exhibit broad antiretroviral activity. The compounds were highly synergistic with other antiviral agents, and resistant mutants have not been detected. **Zinc** finger-reactive compounds may offer an anti-HIV strategy that restricts drug-resistance development.
CC Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Pathology, General and Miscellaneous - Therapy *12512
Pharmacology - Clinical Pharmacology *22005
Genetics of Bacteria and Viruses *31500
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215

IT Major Concepts
Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Infection; Pathology; Pharmacology
IT Miscellaneous Descriptors
ACQUIRED IMMUNODEFICIENCY SYNDROME; DRUG RESISTANCE DEVELOPMENT
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human (Hominidae); **human immunodeficiency virus-1 (Retroviridae)**
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses

L103 ANSWER 3 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:526322 BIOSIS
DN PREV199598540622
TI Novel disulfide-substituted benzamide (DIBA) inhibitors of HIV-1 p7NC protein **zinc** fingers as candidates for the treatment of AIDS.
AU **Rice, William G. (1)**; Buckheit., Robert W., Jr.; Clanton, David (1); Domagala, John; Gogliotti, Rocco; Bu, Ming (1); Graham, Lisa (1); Schaeffer, Catherine A. (1); Tuppin, Jim A. (1); Bader, John P.; Halliday, Susan M.; **Arthur, Larry O. (1)**; **Henderson, Louis E. (1)**
CS (1) SAIC Frederick, N01-C05600, National Cancer Inst.-FCRDC, Frederick, MD 21702 USA
SO Abstracts of the Interscience Conference on Antimicrobial Agents and Chemotherapy, (1995) Vol. 35, No. 0, pp. 229.
Meeting Info.: 35th Interscience Conference on Antimicrobial Agents and Chemotherapy San Francisco, California, USA September 17-20, 1995
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Cytology and Cytochemistry - Human *02508
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Minerals 10069
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Pharmacology - Clinical Pharmacology *22005
Genetics of Bacteria and Viruses *31500
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215
IT Major Concepts
Cell Biology; Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Hematology (Human Medicine, Medical Sciences); Infection; Pharmacology
IT Chemicals & Biochemicals
DISULFIDE; BENZAMIDE
IT Miscellaneous Descriptors
ACQUIRED IMMUNODEFICIENCY SYNDROME; DRUG RESISTANCE; MEETING ABSTRACT; MEETING POSTER; THERAPEUTIC IMPLICATION
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human (Hominidae); **human immunodeficiency virus (Retroviridae)**
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates;

vertebrates; viruses
RN 16734-12-6 (DISULFIDE)
55-21-0D (BENZAMIDE)

L103 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:526321 BIOSIS
DN PREV199598540621
TI 4-Iodo-3-nitrobenzamide (HNO-2BA) as a prodrug that targets HIV-1 p7 **nucleocapsid** protein **zinc** fingers as a potential treatment for HIV infection.
AU Schaeffer, Catherine A. (1); Turpin, Jim A. (1); **Rice, William G. (1)**; Bu, Ming (1); Graham, Lisa (1); **Arthur, Larry O. (1)**; **Henderson, Louis E.**; Mendeleyev, Jerome; Klun, Ernest
CS (1) SAIC Frederick, N01-C05600, National Cancer Inst.-FCRDC, Frederick, MD 21702 USA
SO Abstracts of the Interscience Conference on Antimicrobial Agents and Chemotherapy, (1995) Vol. 35, No. 0, pp. 229.
Meeting Info.: 35th Interscience Conference on Antimicrobial Agents and Chemotherapy San Francisco, California, USA September 17-20, 1995
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Cytology and Cytochemistry - Human *02508
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Minerals 10069
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Pharmacology - Clinical Pharmacology *22005
Genetics of Bacteria and Viruses *31500
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215
IT Major Concepts
Cell Biology; Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Hematology (Human Medicine, Medical Sciences); Infection; Pharmacology
IT Miscellaneous Descriptors
MEETING ABSTRACT; MEETING POSTER; THERAPEUTIC IMPLICATION
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human (Hominidae); **human immunodeficiency virus (Retroviridae)**
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses

L103 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:282849 BIOSIS
DN PREV199598297149
TI A new class of anti-viral drugs attack highly conserved **zinc** fingers in retroviral **nucleocapsid** proteins.
AU **Henderson, L. E. (1)**; Sowder, R. C. Ii (1); Ott, D. E. (1); **Rein, A. R.**; **Arthur, L. O. (1)**; **Rice, W. G. (1)**
CS (1) PRI/DynCorp, NCI-FCRDC, Frederick, MD 21702 USA
SO Journal of Cellular Biochemistry Supplement, (1995) Vol. 0, No. 21B, pp. 191.
Meeting Info.: Keystone Symposium on HIV Pathogenesis Keystone, Colorado, USA April 17-23, 1995

ISSN: 0733-1959.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines 10062
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Minerals 10069
Replication, Transcription, Translation 10300
Pathology, General and Miscellaneous - Therapy 12512
Pharmacology - Clinical Pharmacology *22005
Genetics of Bacteria and Viruses *31500
Virology - Animal Host Viruses 33506
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae 86215
Muridae *86375
IT Major Concepts
Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Infection; Pharmacology
IT Miscellaneous Descriptors
MEETING ABSTRACT; MEETING POSTER; VIRAL REPLICATION
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human (Hominidae); **human immunodeficiency virus type-1 (Retroviridae)**; murine (Muridae)
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; nonhuman mammals; nonhuman vertebrates; primates; rodents; vertebrates; viruses

L103 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:149029 BIOSIS
DN PREV199598163329
TI A new class of anti-viral drugs attack highly conserved **zinc** fingers in retroviral **nucleocapsid** proteins.
AU **Henderson, L. E.**; Sowder, R. C. Ii; Kane, B.; Casas-Finet, J. R.; **Arthur, L. O.**; **Rice, W. G.**
CS PRI/DynCorp., NCI-FCRDC, Frederick, MD 21702 USA
SO AMERICAN SOCIETY FOR MICROBIOLOGY.. (1995) pp. 68. Human retroviruses and related infections.
Publisher: American Society for Microbiology (ASM) Books Division, 1325 Massachusetts Ave. NW, Washington, DC 20005-4171, USA.
Meeting Info.: 2nd National Conference Washington, D.C., USA January 29-February 2, 1995
ISBN: 1-55581-097-7.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines *10062
Biochemical Studies - Minerals *10069
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Pharmacology - Clinical Pharmacology *22005
Pharmacology - Blood and Hematopoietic Agents *22008

Pharmacology - Immunological Processes and Allergy *22018
Bacteriology, General and Systematic *30000
Genetics of Bacteria and Viruses *31500
Virology - Animal Host Viruses *33506
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215
IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Hematology (Human Medicine, Medical Sciences); Infection; Microbiology; Pharmacology; Systematics and Taxonomy
IT Chemicals & Biochemicals
AZIDOTHYMIDINE; CYSTEINE
IT Miscellaneous Descriptors
AMINO ACID; ANTIVIRAL-DRUG; AZIDOTHYMIDINE; AZT; CYSTEINE THIOLATE; DRUG DESIGN; DRUG RESISTANCE; DRUG SYNERGY; DRUG TARGET; HISTIDINE IMIDAZOLE; MEETING ABSTRACT; MEETING POSTER; RNA
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human immunodeficiency virus type 1 (Retroviridae); retrovirus (Retroviridae); simian immunodeficiency virus (Retroviridae); Hominidae (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses
RN 30516-87-1 (AZIDOTHYMIDINE)
52-90-4 (CYSTEINE)

L103 ANSWER 7 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:138831 BIOSIS
DN PREV199598153131
TI Development of rapid screening assays for a new class of antiviral drugs attacking **zinc** fingers in retroviral **nucleocapsid** proteins.
AU Casas-Finet, J. R.; Schaeffer, C. A.; Sowder, R. C. Ii; **Henderson, L. E.; Arthur, L. O.; Rice, W. G.**
CS PRI/DynCorp., NCI-FCRDC, Frederick, MD 21702 USA
SO Biophysical Journal, (1995) Vol. 68, No. 2 PART 2, pp. A244.
Meeting Info.: 39th Annual Meeting of the Biophysical Society San Francisco, California, USA February 12-16, 1995
ISSN: 0006-3495.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Minerals *10069
Biophysics - Molecular Properties and Macromolecules *10506
Virology - Animal Host Viruses *33506
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae *02623**
IT Major Concepts
Biochemistry and Molecular Biophysics; Microbiology; Pharmacology
IT Chemicals & Biochemicals
ZINC
IT Miscellaneous Descriptors
MEETING ABSTRACT; RATIONAL DRUG DESIGN; **ZINC** DISPLACEMENT

ORGN Super Taxa
Retroviridae: Viruses
ORGN Organism Name
human immunodeficiency virus type 1 (Retroviridae)
ORGN Organism Superterms
microorganisms; viruses
RN **7440-66-6 (ZINC)**

L103 ANSWER 8 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:48608 BIOSIS
DN PREV199598062908
TI A new class of anti-viral drugs attacking highly conserved **zinc** fingers in retroviral **nucleocapsid** proteins.
AU **Henderson, L. E.**; Sowder, R. C. Ii; Casas-Finet, J. R.; **Arthur, L. O.**; Bader, J.; Buckheit, R. W.; Jr.; Clanton, D.; **Rice, W. G.**
CS PRI/DynCorp., NCI-Frederick Cancer Res. Dev. Cent., Frederick, MD 21702-1201 USA
SO AIDS Research and Human Retroviruses, (1994) Vol. 10, No. SUPPL. 3, pp. S153.
Meeting Info.: Annual Meeting of the Laboratory of Tumor Cell Biology Rockville, Maryland, USA September 25-October 1, 1994
ISSN: 0889-2229.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Minerals 10069
Biophysics - Molecular Properties and Macromolecules *10506
Virology - Animal Host Viruses *33506
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215
IT Major Concepts
Biochemistry and Molecular Biophysics; Clinical Immunology (Human Medicine, Medical Sciences); Infection; Microbiology; Pharmacology
IT Miscellaneous Descriptors
LENTIVIRINAE; MEETING ABSTRACT; ONCOVIRINAE; PHARMACODYNAMICS
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human immunodeficiency virus-1 (Retroviridae); Hominidae (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses

L103 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:475365 BIOSIS
DN PREV199497488365
TI Retroviral **zinc** finger chelate as a new target site for HIV chemotherapy.
AU Kun, E. (1); Mendeleyev, J.; Hakam, Alaeddin; **Rice, W. G.**
CS (1) Octamer Res. Foundation, Romberg Tiburon Cent., San Francisco State Univ., P.O. Box 915, Tiburon, CA 94920 USA
SO TENTH INTERNATIONAL CONFERENCE ON AIDS, INTERNATIONAL CONFERENCE ON STD.. (1994) pp. 2) 32. Tenth International Conference on AIDS and the International Conference on STD, Vol. 2; The global challenge of AIDS:

Together for the future.
Publisher: Tenth International Conference on AIDS Yokohama, Japan.
Meeting Info.: Meeting Yokohama, Japan August 7-12, 1994
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Social Biology; Human Ecology *05500
Behavioral Biology - Human Behavior *07004
Biochemical Studies - Minerals 10069
Reproductive System - General; Methods *16501
Genetics of Bacteria and Viruses *31500
Virology - Animal Host Viruses *33506
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215
IT Major Concepts
Behavior; Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Human Ecology (Anthropology); Infection; Microbiology; Pharmacology; Reproductive System (Reproduction)
IT Miscellaneous Descriptors
ACQUIRED IMMUNODEFICIENCY SYNDROME; MEETING ABSTRACT
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human immunodeficiency virus (Retroviridae); Hominidae (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses

L103 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:464497 BIOSIS
DN PREV199497477497
TI HIV-1 **zinc** fingers: A target for rational drug development.
AU **Henderson, L. E. (1)**; Sowder, R. C. Ii (1); Bess., J. W., Jr. (1); Casas-Finet, J. R.; Yu, X.; Fenselau, C.; **Rice, W. G.**; Mendeleyev, J.; Wink, A.; Kun, E.; **Arthur, L. O. (1)**
CS (1) NCI-FCRDC, PRI/DynCorp, AIDS Vaccine Program, Frederick, MD 21702 USA
SO AIDS Research and Human Retroviruses, (1994) Vol. 10, No. SUPPL. 1, pp. S27.
Meeting Info.: Annual Meeting of the Laboratory of Tumor Cell Biology Bethesda, Maryland, USA August 22-28, 1993
ISSN: 0889-2229.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biophysics - Molecular Properties and Macromolecules *10506
Pathology, General and Miscellaneous - Therapy *12512
Genetics of Bacteria and Viruses *31500
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Hominidae *86215

IT Major Concepts
Biochemistry and Molecular Biophysics; Clinical Immunology (Human Medicine, Medical Sciences); Genetics; Infection; Pathology; Pharmacology
IT Miscellaneous Descriptors
ACQUIRED IMMUNODEFICIENCY SYNDROME; ANTIVIRAL DRUG TARGET; MEETING ABSTRACT; **NUCLEOCAPSID** PROTEIN; OXIDIZING AGENTS; THERAPEUTIC IMPLICATIONS; 3-NITROSOBENZAMIDE
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**
ORGN Organism Name
human immunodeficiency virus type 1 (Retroviridae); Hominidae (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses

L103 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:279479 BIOSIS
DN PREV199497292479
TI **Nucleocapsid zinc** fingers detected in retroviruses: EXAFS studies of intact viruses and the solution-state structure of the **nucleocapsid** protein from HIV-1.
AU Summers, Michael F. (1); **Henderson, Louis E.**; Chance, Mark R.; Bess, Julian W., Jr.; South, Terri L.; Blake, Paul R.; Sagi, Irit; Perez-Alvarado, Gabriela; Sowder, Raymond C., III; et al.
CS (1) Dep. Chem. Biochem., Univ. Md. Baltimore County, Baltimore, MD 21228 USA
SO Protein Science, (1992) Vol. 1, No. 5, pp. 563-574. ISSN: 0961-8368.
DT Article
LA English
AB All retroviral **nucleocapsid** (NC) proteins contain one or two copies of an invariant 3Cys-1His array (**CCHC** = C-X-2-C-X-4-H-X-4-C; C = Cys, H = His, X = variable amino acid) that are essential for RNA genome packaging and infectivity and have been proposed to function as **zinc**-binding domains. Although the arrays are capable of binding **zinc** in vitro, the physiological relevance of **zinc** coordination has not been firmly established. We have obtained **zinc**-edge extended X-ray absorption fine structure (EXAFS) spectra for intact retroviruses in order to determine if virus-bound **zinc**, which is present in quantities nearly stoichiometric with the **CCHC** arrays (Bess, J.W., Jr., Powell, P.J., Issaq, H.J., Schumack, L.J., Grimes, M.K., Henderson, L.E., & Arthur, L.O., 1992, J. Virol. 66, 840-847), exists in a unique coordination environment. The viral EXAFS spectra obtained are remarkably similar to the spectrum of a model **CCHC zinc** finger peptide with known 3Cys-1His **zinc** coordination structure. This finding, combined with other biochemical results, indicates that the majority of the viral **zinc** is coordinated to the NC **CCHC** arrays in mature retroviruses. Based on these findings, we have extended our NMR studies of the HIV-1 NC protein and have determined its three-dimensional solution-state structure. The **CCHC** arrays of HIV-1 NC exist as independently folded, noninteracting domains on a flexible polypeptide chain, with conservatively substituted aromatic residues forming hydrophobic patches on the **zinc** finger surfaces. These residues are essential for RNA genome recognition, and fluorescence measurements indicate that at least one residue (Trp-37) participates directly in binding to nucleic acids in vitro. The NC is only the third HIV-1 protein to be structurally characterized, and the combined EXAFS, structural, and nucleic acid-binding results provide a basis for the rational design of new NC-targeted antiviral agents and vaccines for

the control of AIDS.
CC Radiation - Radiation and Isotope Techniques 06504
Biochemical Methods - Proteins, Peptides and Amino Acids *10054
Biochemical Methods - Minerals 10059
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Minerals *10069
Biophysics - General Biophysical Techniques *10504
Biophysics - Molecular Properties and Macromolecules *10506
Pathology, General and Miscellaneous - Therapy 12512
Pharmacology - Immunological Processes and Allergy 22018
Virology - Animal Host Viruses *33506
Immunology and Immunochemistry - Bacterial, Viral and Fungal *34504
Immunology and Immunochemistry - Immunopathology, Tissue Immunology 34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae *02623**
IT Major Concepts
Biochemistry and Molecular Biophysics; Immune System (Chemical Coordination and Homeostasis); Infection; Methods and Techniques; Microbiology
IT Miscellaneous Descriptors
ANTIVIRAL DRUG DESIGN; EXTENDED X-RAY ABSORPTION FINE STRUCTURE SPECTRA; NMR STRUCTURE; VACCINE DEVELOPMENT
ORGN Super Taxa
Retroviridae: Viruses
ORGN Organism Name
human immunodeficiency virus-1 (Retroviridae)
ORGN Organism Superterms
microorganisms; viruses

L103 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:14138 BIOSIS
DN PREV199497027138
TI The site of antiviral action of 3-nitrosobenzamide on the infectivity process of human immunodeficiency virus in human lymphocytes.
AU **Rice, William G. (1)**; Schaeffer, Catherine A.; Graham, Lisa; Bu, Ming; McDougal, J. Steven; Orloff, Sherry L.; Villinger, Francois; Young, Matthew; Oroszlan, Stephan; et al.
CS (1) Lab. Antiviral Drug Mechanisms, Program Resources, Inc./DynCorp, National Cancer Inst-Frederick Cancer Res. Dev. Center, Building 431 T-B, PO Box B, Frederick, MD 21702 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1993) Vol. 90, No. 20, pp. 9721-9724.
ISSN: 0027-8424.
DT Article
LA English
AB The C-nitroso compound 3-nitrosobenzamide, which has been shown to remove **zinc** from the retroviral-type **zinc** finger of p7NC **nucleocapsid** proteins, inhibits acute infection of human immunodeficiency virus type 1 in cultured human lymphocytes. The attachment of the virus to lymphocytes and the activities of critical viral enzymes, such as reverse transcriptase, protease, and integrase, are not affected by 3-nitrosobenzamide. However, the process of reverse transcription to form proviral DNA is effectively abolished by the drug, identifying the mode of action of 3-nitrosobenzamide as interrupting the role of p7NC in accurate proviral DNA synthesis during the infectious phase of the virus life cycle.
CC Biochemical Studies - General 10060
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines 10062
Biochemical Studies - Minerals 10069
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies *15006

Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Pharmacology - Clinical Pharmacology *22005
Genetics of Bacteria and Viruses *31500
Virology - Animal Host Viruses *33506
Immunology and Immunochemistry - Bacterial, Viral and Fungal *34504
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506

BC **Retroviridae 02623**
Hominidae *86215

IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Genetics; Hematology (Human Medicine, Medical Sciences); Immune System (Chemical Coordination and Homeostasis); Infection; Microbiology; Pharmacology

IT Miscellaneous Descriptors
ANTIVIRAL-DRUG; PROVIRAL DNA BLOCK; **ZINC** FINGER; 3-NITROSOBENZAMIDE

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; **Retroviridae: Viruses**

ORGN Organism Name
Hominidae (Hominidae); **Retroviridae (Retroviridae)**

ORGN Organism Superterms
animals; chordates; humans; mammals; microorganisms; primates; vertebrates; viruses

L103 ANSWER 13 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1993:399629 BIOSIS
DN PREV199345058454
TI Novel **zinc**-ejecting C-nitroso compounds inhibit the infectious and expressive phases of HIV-1 life cycle.
AU **Rice, William G. (1)**; Schaeffer, Catherine A. (1); McDougal, J. Steven; Orloff, Sherry L.; Summers, Michael F.; South, Terri L.; Mendeleyev, Jerome; Kun, Ernest
CS (1) Lab. Antiviral Drug Mechanisms, Program Res. Inc./DynCorp, NCI-Frederick Cancer Res. Development Center, Frederick, MD 21702 USA
SO Journal of Cellular Biochemistry Supplement, (1993) Vol. 0, No. 17 PART E, pp. 22.
Meeting Info.: Keystone Symposium on Frontiers in HIV Pathogenesis Albuquerque, New Mexico, USA March 29-April 4, 1993
ISSN: 0733-1959.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - General 10060
Biochemical Studies - Minerals 10069
Pharmacology - General *22002
Virology - Animal Host Viruses *33506
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506

BC **Retroviridae *02623**

IT Major Concepts
Infection; Microbiology; Pharmacology

IT Miscellaneous Descriptors
ABSTRACT; ANTIVIRAL-DRUG; 3=NITROSOBENZAMIDE

ORGN Super Taxa
Retroviridae: Viruses

ORGN Organism Name
human immunodeficiency virus type 1 (Retroviridae)

ORGN Organism Superterms
microorganisms; viruses

L103 ANSWER 14 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1993:222365 BIOSIS
DN PREV199344106865
TI 3-Nitrosobenzamide (NOBA) reacts with the **zinc**-finger sequences of HIV-1 **nucleocapsid** protein (P7) and phage T4 gene 32 protein (GP32.
AU Casas-Finet, J. R. (1); Sowder, R. C.; Yu, X.; Mendeleyev, J.; Fenselau, C.; Kun, E.; Erickson, J. W. (1); **Henderson, L. E.**
CS (1) Struct. Biochem., NCI-FCRDC, Frederick, MD 21702 USA
SO Biophysical Journal, (1993) Vol. 64, No. 2 PART 2, pp. A125.
Meeting Info.: Thirty-seventh Annual Meeting of the Biophysical Society Washington, D.C., USA February 14-18, 1993
ISSN: 0006-3495.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Methods - Proteins, Peptides and Amino Acids *10054
Biochemical Studies - General 10060
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines 10062
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biophysics - General Biophysical Techniques *10504
Virology - Bacteriophage 33504
Virology - Animal Host Viruses 33506
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae 02623**
Myoviridae *02707
IT Major Concepts
Infection; Methods and Techniques; Pharmacology
IT Miscellaneous Descriptors
ABSTRACT; ANALYTICAL METHOD; ANTIVIRAL; DNA; HIGH PERFORMANCE LIQUID CHROMATOGRAPHY; HUMAN IMMUNODEFICIENCY VIRUS-TYPE I; MASS SPECTROMETRY
ORGN Super Taxa
Myoviridae: Viruses; **Retroviridae: Viruses**
ORGN Organism Name
Myoviridae (Myoviridae); **Retroviridae (Retroviridae)**
ORGN Organism Superterms
microorganisms; viruses

L103 ANSWER 15 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1992:318862 BIOSIS
DN BR43:19587
TI STRUCTURE AND FUNCTION OF **NUCLEOCAPSID** NC PROTEIN A TARGET FOR DRUG DEVELOPMENT.
AU **HENDERSON L E**; GORELICK R J; POWELL P J; SOWDER R C II; BESS J W JR; **ARTHUR L O**; SUMMERS M F; SOUTH T L; BLAKE P R; ET AL
CS AIDS, VACCINE PROG., PRI/DYNCORP., NCI-FREDERICK CANCER RES. DEV. CENT., FREDERICK, MD. 21702.
SO KEYSTONE SYMPOSIUM ON PREVENTION AND TREATMENT OF AIDS, KEYSTONE, COLORADO, USA, MARCH 27-APRIL 3, 1992. J CELL BIOCHEM SUPPL. (1992) 0 (16 PART E), 80.
CODEN: JCBSD7.
DT Conference
FS BR; OLD
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Cytology and Cytochemistry - Human *02508
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Virology - Animal Host Viruses *33506
Immunology and Immunochemistry - Bacterial, Viral and Fungal *34504
Immunology and Immunochemistry - Immunopathology, Tissue Immunology

*34508
Medical and Clinical Microbiology - Virology *36006
Chemotherapy - Antiviral Agents *38506
BC **Retroviridae - Lentivirinae 02242**
Hominidae 86215
IT Miscellaneous Descriptors
ABSTRACT HUMAN IMMUNODEFICIENCY VIRUS TYPE I ACQUIRED IMMUNODEFICIENCY SYNDROME

=> d his

(FILE 'HOME' ENTERED AT 13:39:53 ON 15 MAR 2003)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 13:40:25 ON 15 MAR 2003
E HENDERSON L/AU
L1 45 S E3,E8
E HENDERSON LOU/AU
L2 123 S E3,E4,E6,E7
E ARTHUR L/AU
L3 115 S E3,E6,E9-E11
E RICE W/AU
L4 18 S E3,E9
L5 61 S E45,E52,E53
E REIN A/AU
L6 106 S E3,E6,E8
E US600155/PN
E US6001555/PN
L7 1 S E3
L8 1 S L1-L6 AND L7
SEL RN

FILE 'REGISTRY' ENTERED AT 13:57:16 ON 15 MAR 2003
L9 56 S E1-E56
E IRON, ION/CN
L10 1 S E67
E COPPER, ION/CN
L11 1 S E55
L12 16 S 10102-43-9 OR 541-59-3 OR 137-26-8 OR 97-77-8 OR 4136-91-8 OR
L13 2 S L9 AND ZN/ELS
L14 2 S 7440-50-8 OR 7439-89-6
L15 36 S L9 NOT L10-L14
L16 28 S L15 AND S>=2
L17 48 S L10,L11,L12,L14,L16
L18 8 S L9 NOT L13,L17
L19 1 S L18 AND NC4/ES
L20 49 S L17,L19
L21 7 S L18 NOT L20
L22 1 S 156730-41-5
L23 50 S L20,L22

FILE 'HCAPLUS' ENTERED AT 14:25:59 ON 15 MAR 2003
L24 744102 S L23
E DISULFIDE/CT
E E7+ALL
L25 9262 S E3
E E7+ALL
L26 2736 S E5
L27 32131 S E5+NT
E HYDRAZIDE/CT
E E10+ALL
L28 1940 S E3

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L29       50477 S E3+NT
                E KETONE/CT
L30         613 S E111
L31        9512 S E141-E143,E154,E155
L32        5151 S KETONE#/CW (L) (HALID? OR HALO? OR CHLOR? OR FLUOR? OR IODO?
L33       46333 S E16
L34       49973 S KETONE#/CW
                E RETROVIR/CT
                E E6+ALL
L35        5912 S E4,E3
L36       50318 S E3+NT
                E LENTIVIR/CT
                E E5+ALL
L37       39973 S E5,E4+NT
                E ONCOVIR/CT
L38          32 S VIRUS?/CW (L) (ONCO OR ONCOVIR?)
                E HIV/CT
                E E5+ALL
                E E2+ALL
L39       16946 S E7,E8,E6+NT
                E E5+ALL
L40       37204 S E6,E5+NT
L41         658 S L24-L34 AND L35-L40
L42          62 S L13 AND L41
L43          24 S (ZINC OR ZN)(L)FINGER AND L41
L44          75 S L42,L43
L45           3 S L41 AND CCHC
L46          24 S L41 AND NUCLEOCAPSID?
L47          85 S L41 AND (ZN OR ZINC)
L48          90 S L44-L47
L49          14 S L1-L6 AND L41

     FILE 'REGISTRY' ENTERED AT 14:37:59 ON 15 MAR 2003
L50           1 S 2127-03-9

     FILE 'HCAPLUS' ENTERED AT 14:39:09 ON 15 MAR 2003
L51         901 S L50
L52          38 S 2(A)ALDRITHIOL
L53           1 S NSC677438 OR NSC()(677438 OR 677 438)
L54          49 S BIS 2 PYRID? DISULFIDE
L55         239 S 2 PYRIDYL DISULFIDE
L56          63 S 2 2 DITHIOBIS PYRIDINE
L57         358 S 2 2 DIPYRID? DISULFIDE
L58         196 S 2 2 DITHIODIPYRIDINE
L59          68 S DI 2 PYRID? DISULFIDE
L60          49 S BIS 2 PYRID? DISULFIDE
L61          29 S L51-L60 AND L35-L40
L62          10 S L61 AND (L13 OR ZINC OR ZN OR FINGER OR NUCLEOCAPSID? OR CCHC
L63         110 S L48,L49,L8,L61,L62
L64          42 S L63 AND (PY<=1995 OR PRY<=1995 OR AY<=1995)
L65          40 S L63 AND (PD<=19950127 OR PRD<=19950127 OR AD<=19950127)
L66          38 S L63 AND (PD<=19940923 OR PRD<=19940923 OR AD<=19940923)
L67          38 S L66 AND L1-L8,L24-L49,L51-L66
                E ANTIVIRAL/CT
                E E5+ALL
L68          19 S L67 AND E10,E11,E9+NT
L69           8 S L67 AND INACTIV?
L70          23 S L68,L69
L71          15 S L67 NOT L70
                SEL DN AN L71 3 9
L72           2 S E1-E6 AND L71
L73          25 S L70,L72
L74          24 S L73 AND (HIV? OR HUMAN(L)IMMUNODEFICIEN?(L)(VIRUS OR SYNDROM?
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L75           1 S L73 NOT L74
L76           8 S L61,L62 AND (PY<=1995 OR PRY<=1995 OR AY<=1995)
L77           2 S L76 NOT L74
L78          24 S L74 AND L1-L8,L24-L49,L51-L77
                SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 14:52:36 ON 15 MAR 2003
L79          51 S E7-E57
L80          49 S L79 NOT ZN/ELS

     FILE 'REGISTRY' ENTERED AT 14:53:10 ON 15 MAR 2003
L81           2 S L79 NOT L80

     FILE 'HCAPLUS' ENTERED AT 14:53:49 ON 15 MAR 2003
                SET COST ON
                SET COST OFF

     FILE 'BIOSIS' ENTERED AT 14:54:40 ON 15 MAR 2003
                E HENDERSON L/AU
L82         295 S E3,E8
                E HENDERSON LOU/AU
L83          75 S E3-E5
                E ARTHUR L/AU
L84         269 S E3,E9,E11-E12
                E RICE W/AU
L85          50 S E3,E9
L86          53 S E26,E28
                E REIN A/AU
L87         134 S E3,E7,E8,E10
L88         729 S L82-L87
L89           4 S L23 AND L88
                E RETROVIR/BC
L90         420 S L88 AND E4-E8
L91          10 S CCHC AND L88
L92          92 S (ZN OR ZINC OR L81) AND L88
L93         103 S NUCLEOCAPSID? AND L88
L94         100 S L93 AND L90
L95          71 S L94 AND L91,L92
L96         287 S L89-L95 AND PY<=1995
L97          38 S L96 AND L89,L91,L92
L98          39 S L96 AND L93
L99          50 S L97,L98
L100         29 S L99 NOT AB/FA
L101         12 S L100 AND 38506/CC
L102         15 S L99 AND 38506/CC
L103         15 S L101,L102
L104         35 S L99 NOT L103

     FILE 'BIOSIS' ENTERED AT 15:03:23 ON 15 MAR 2003
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